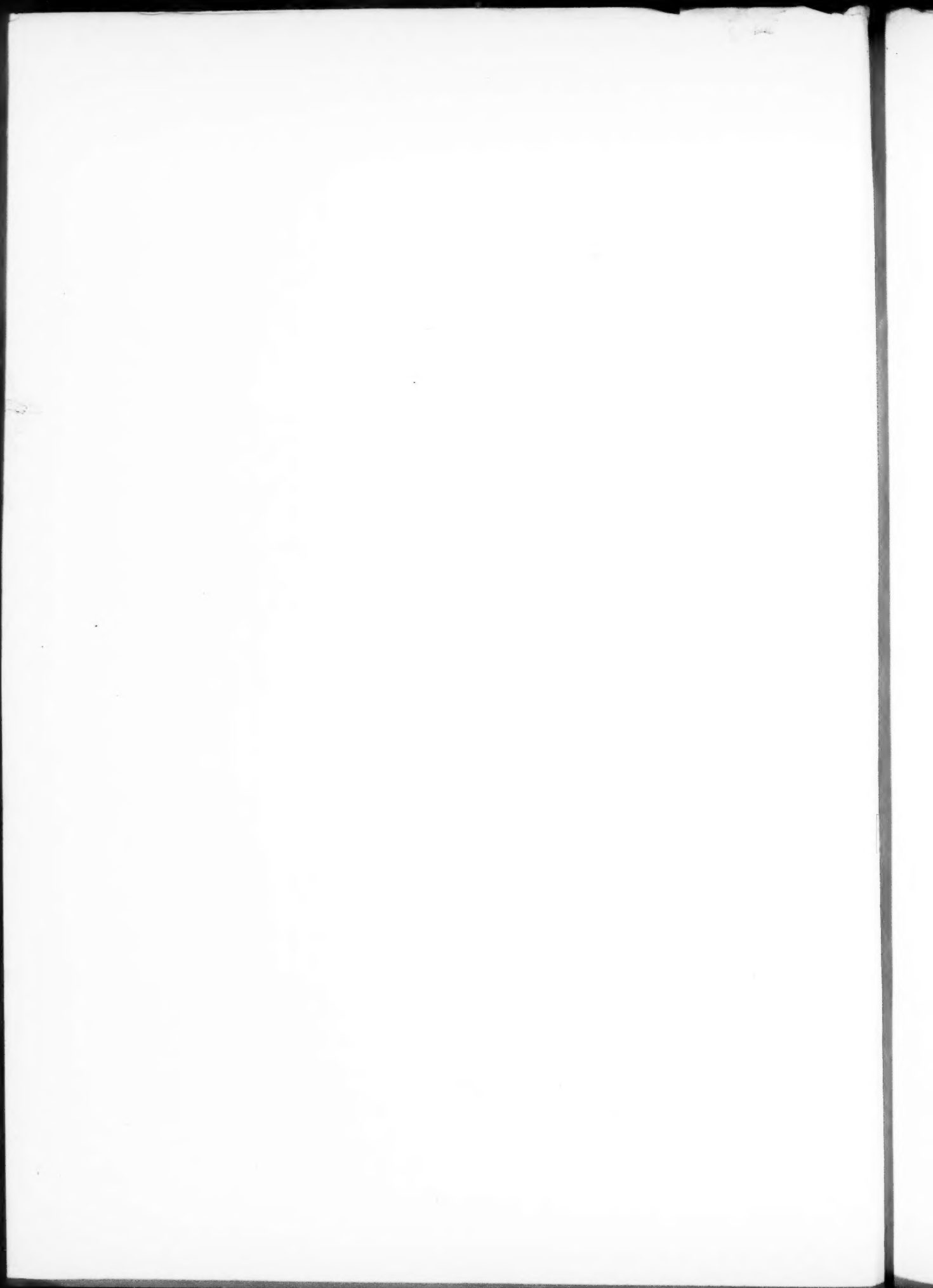


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THE
COMMAND AND GENERAL STAFF SCHOOL
QUARTERLY



September, 1938, Review of Military Literature
VOL. XVIII, No. 70



Volume XVIII
1938

Number 70

THE
COMMAND AND GENERAL STAFF SCHOOL
QUARTERLY
REVIEW OF MILITARY LITERATURE

LIEUTENANT COLONEL P. R. DAVISON, *Editor*
MAJOR E. M. BENITEZ, *Assistant Editor*

September, 1938

Third Quarter

THE COMMAND AND GENERAL STAFF SCHOOL QUARTERLY—REVIEW OF MILITARY LITERATURE, is published by The Command and General Staff School at Fort Leavenworth, Kansas. Entered as second-class matter August 31, 1934, at the Post Office at Fort Leavenworth, Kansas, under the Act of March 3, 1879. Subscription rate: One year in the United States and possessions, Cuba and Mexico, \$1.00; foreign, \$2.00 a year.

Books

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- The Navy: A History—***By Fletcher Pratt*
- The Lost Battalion—***By Thomas Johnson and Fletcher Pratt*
- The American Civil War—***By Carl R. Fish*
- The American Civil War, 1864-65—***By Major E. W. Sheppard,
O.B.E., M.C.*
- The Last Five Hours of Austria—***By Eugene Lennhoff*
- Japan in China—***By T. A. Bisson*
- China Fights for Her Life—***By H. R. Ekins and Theon Wright*
- China Fights Back—***By Agnes Smedley*
- And so to War—***By Hubert Herring*
- America Goes to War—***By Charles C. Tansill*
- Action at Aquila—***By Hervey Allen*
- Andrew Jackson—***By Marquis James*
- Roosevelt—***By Emil Ludwig*
- Tarnished Warrior—***By Major James R. Jacobs*
- James Madison: Builder—***By Abbott E. Smith*
- George Mason: Constitutionalist—***By Harriet Hill*
- Roger Sherman: Signer and Statesman—***By R. S. Boardman*
- Labor on the March—***By Edward Levinson*
- The Politicos—***By Matthew Josephson*
- The Big Four—***By Oscar Lewis*
-

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Mission

The object of this publication is a systematic review of current military literature, through cataloging articles of professional value, in selected military and naval periodicals, in the domestic and foreign field.

Articles from foreign periodicals are treated by translations of titles and digests of contents; material of particular importance is covered more extensively in a section of "Foreign Military Digests."

A "Library Bulletin" Section lists books, recently accessioned, which are of particular significance.

This *Quarterly* is published as a guide to modern military tendencies and to inspire vigorous thoughts on the subjects treated.

The opinions expressed by authors are not necessarily official.

Acknowledgment

The editors of the *Quarterly* desire to express their thanks and appreciation to the many persons who have valuably assisted in the preparation of material for this issue. The work of contributors has been done in addition to their other duties and on their own time. We are very grateful to the following officers for their generous donations:

Captain H. N. Hartness: *Die Kraftfahrkamftruppe* (March, April, May 1938)

Major T. R. Phillips: *La France Militaire* (18 February, 5, 19 March, 19-20 April, 1, 10-11 July 1938); *Revue Militaire Suisse* (December 1937, January, February 1938)

Lieutenant J. W. Rudolph: Book Reviews

Major R. G. Tindall: *Revue d'Infanterie* (January, February, March 1938); *Revue Militaire Générale* (January, February, March 1938)

Major L. K. Truscott, Jr.: *Revue de Cavalerie* (January-February, March-April 1938)

The Cover

United States Army, armored car, M-1, used for reconnaissance.

Equipped with .50 and .30 caliber machine guns, radio and armor plate.



Mechanization of Russia (U.S.S.R.)

Wide World Photo.

Mechanization

BY LIEUT. COLONEL P. R. DAVISON, *Cavalry*
and
MAJOR E. M. BENITEZ, *Coast Artillery Corps*

This article does not necessarily express the ideas, policies, teachings or beliefs of The Command and General Staff School. It should not be construed that the authors are attempting to introduce new and strange ideas to our service. The study is written to present mechanization, in a general character, as it is found today in five great nations. An hypothetical situation is used as a vehicle upon which to load a suggested mechanized force. Should this study inspire a great many differences of opinion, it has then created thought on the subject, and in so doing, its mission is accomplished.

The Republic of ATLANTIS* is considered the wealthiest nation in the world. It is a peace-loving country, desires no encroachment of territory and, up to the present time, she has enjoyed a security from invasion that has been greatly aided by her geographical position. She has maintained a traditional policy of aloofness, freedom from alliances and political entanglements with other nations, although she has materially assisted other Powers with men and materiel to safeguard their integrity and to preserve their democratic ideals. Her lofty aims and her invaluable assistance have always been duly appreciated. She maintains a strong navy and a small, but highly efficient Active Army and a well-trained Territorial Guard. It would take several months for ATLANTIS to put a large army in the field, and it is contrary to her national policy and to the will of the people to maintain a large standing army to safeguard her interests at home and abroad. The tactical doctrine of her army is based upon offensive action.

The unsteady world conditions and the realization that it is no longer possible to conceive military operations which do not require the use of armored vehicles, have awakened ATLANTIS to the fact that she needs some kind of a mecha-

nized force. At present, she has practically none; she is, therefore, starting from scratch.

Accordingly, the Chief Executive of ATLANTIS has sent the following directive to his Secretary of National Defense:

THE EXECUTIVE MANSION OF ATLANTIS,
10 August, 1938

THE SECRETARY OF NATIONAL DEFENSE,

My Dear Mr. Secretary:

Modern means of transportation, communications, size of navies, and, especially, the capacity, potentialities, speed and range of airplanes today and those planned for future use, have taken from Atlantis the security that she has enjoyed from her birth due to her geographical position.

Our National Defense is splendid in all its branches, arms, doctrines and tactics, except that it completely lacks mechanization. We have partial motorization, but no mechanization.

It is requested that the appropriate staff section make, without delay, a study of the mechanization of England, France, Germany, Italy and Russia, considering for each country at least the following subjects:

*A fictitious country, without mechanization policies, doctrines or practices thereof.

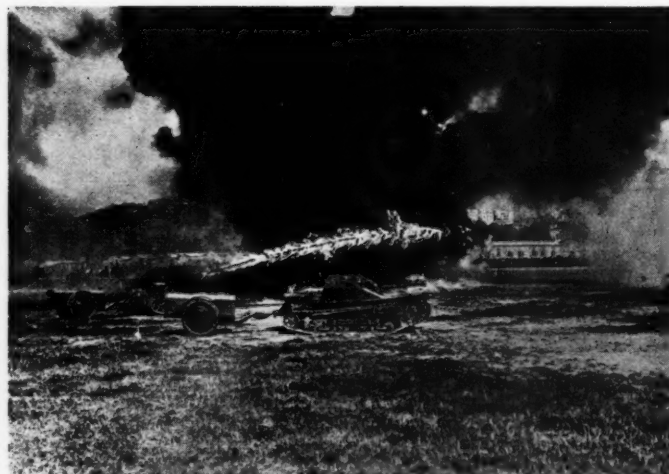
1. Mission of the armed forces.
2. The terrain, or probable theatre of operations.
3. The organization of mechanized forces.
4. The armament of combat vehicles.
5. The doctrine of mechanization.
6. Probable tactical employment.

Submit to me as soon as possible recommendations for the organization of a mechanized unit or force which possesses the best features of the five nations above mentioned, adapting it to our own needs, and such additional information as you may deem fit.

Sincerely,

A,
Chief Executive, Atlantis.

The Grand Staff, bearing in mind that, as President Coolidge once said, "there is no better way of finding out what should be done than by determining what has been done," referred to the pages of history for a study of the origin and development of mechanized weapons and their practical applications on the battlefield.



Acme Newspictures.

Flame throwing Italian tank in action.

Since the beginning of warfare, it has been recognized necessary to have some kind of shock troops to pierce the enemy front. Hannibal's use of elephants as a spearhead to crush the center of the Roman Legions is, perhaps, the first example of this type of force. In that case, the experiment was not entirely successful, because the elephants became disorganized and could not be controlled on the battlefield. That idea, however, may have been the guiding principle for the use of similar methods of warfare during the World War; however, just as in the case of Hannibal, the result was a failure in those cases where mechanical defects existed or where improper tactical use was made of these weapons.

In the World War, by the year 1916, mobility of action had been lost and, as a result of the machine gun and the barbed wire entanglement, stagnation had taken place all along the Western Front. The Allies then resorted to the tank, which was the only type of mechanization known at that time. This weapon was devised by the British as an

antidote to the machine gun that was playing such havoc with the lives of the infantry, that it was sheer murder to send men against strongly defended positions.

The British used tanks for the first time during the Battle of the Somme, in the summer and fall of 1916, and in Flanders and at Cambrai. Their value became evident



Wide World

Edouard Daladier, France's Minister for National Defense, riding one of the light combat machines of the French mechanized

arm from the outset, in spite of the fact that they were moving, mechanically imperfect machines and were of poor tactical employment by inexperienced hands.

The French used tanks in the Soissons offensive, for the purpose of reducing the Marne Salient, at Arras and in the September-October 1918 offensives (Champagne and Guise).



Wide World

Germany's war machines on exhibition in Nuremberg.

The Germans first employed tanks in the great offensive near St. Quentin, 21 March 1918, and used them thereafter in all major operations up to the end of the war with varying degree of success.

It may be said that the following principles governing the tactical employment of tanks can be deducted from the World War:

1. That terrain is a controlling and vital factor in tank operations.
2. That surprise, when possible, is extremely valuable in tank attack.
3. That tanks, when used in mass, properly screened and supported by artillery, have the opportunity to make a deep penetration into a defensive zone.
4. That tanks are extremely vulnerable to artillery fire, when not adequately screened.
5. That the absence of an artillery preparation or other efficient means of dealing with the enemy antitank weapons, leaves intact hostile weapons that may be able to intervene effectively against a tank attack and cause heavy losses.
6. That artillery counterbattery support is of great assistance, if not a necessity, to advancing tanks throughout the attack.

"Tanks are the principal attack elements of a mechanized force. The tactics of the force as a whole, shall be predicated upon supporting and assisting the attack of the tank elements and upon quickly consolidating, securing and exploiting the success gained by the tank attack. Other arms are added as auxiliaries to furnish the element of holding (which tanks lack), security and maintenance of command, fire support, facility of movement and supply."

The term "mechanized unit," as we understand it today, includes all units equipped with armored combat vehicles, whether they be scout cars, combat cars or tanks. All major powers are mechanizing or motorizing as far as their financial and industrial resources permit, and for this reason, it is of particular importance to cast a glance at what those nations are accomplishing. The information herein given has been obtained from foreign press reports and, due to the many changes and experimentation that is continually taking place, it may contain slight errors in organization.

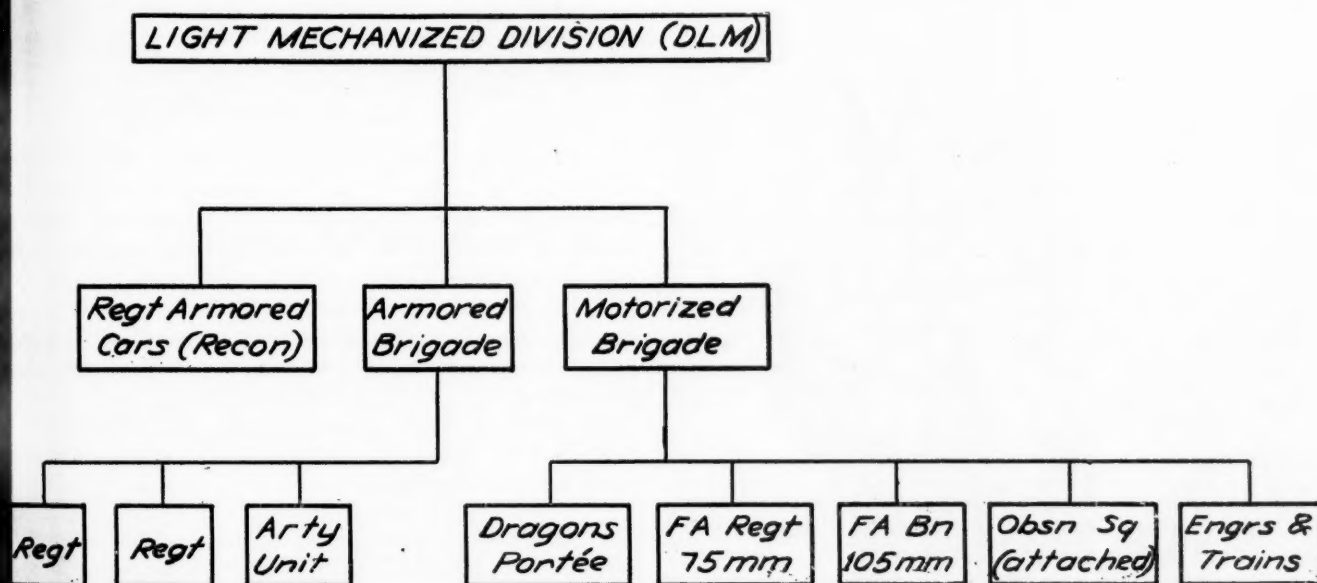


FIGURE 1.—French Light Mechanized Division.

7. That the tank attack (leading tanks) should include rapid advance to predetermined objectives, the most distant of which is the mass of the hostile artillery, paralyzing the enemy's communications and command system.

We thus see that the World War developed a new factor in the art of war that has opened new horizons whose possibilities the world is beginning to realize, and that the ideas of the offensives of 1918 in the Western Front and those contemplated for 1919, were the origin of the operations and conceptions of the mechanized forces of the present day.

Since the World War, the major powers have been experimenting with mechanized units and testing theories concerning mechanization. It may be inferred, therefore, that a need is anticipated for a mechanized force, the basic requirements of which are great mobility and striking power.

When the United States' mechanized force came into being in 1928, the War Department directive said, among other things:

FRANCE

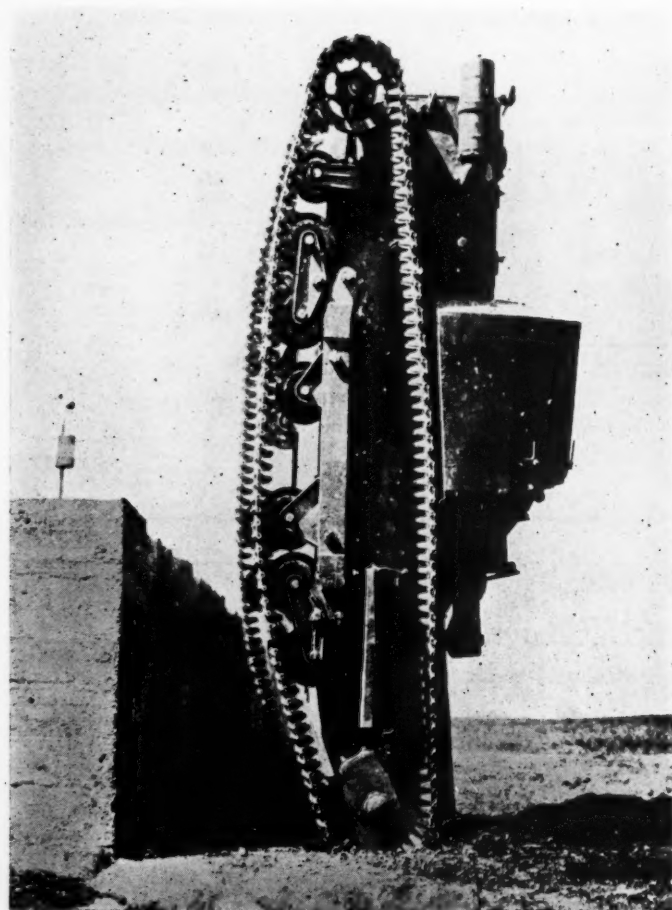
The French military doctrine is based upon a national policy that does not seek territorial expansion, but desires to maintain intact what she now possesses. The French visualize only one enemy—Germany—her big, heavily armed neighbor, defeated in the World War, but now determined to get back the territory and power of which she was stripped by France, England and the other Allies; therefore, all their plans and organization are designed to stop effectively any German attack. The French defense is based upon the Maginot Line,* an immensely strong series of underground forts, running from the Belgian frontier to a point along the Swiss border. If they are attacked around either flank of this line, they expect to block the advance with a mobile defense until they are reinforced by allies.

*See C&GSS Quarterly, June 1938, page 46.

The terrain of operations of the French Army is on its own soil, or in adjacent territory on its northern frontier, where there is an excellent road net.

Mechanization is still in a state of flux. She has one complete mechanized division, one in the process of formation, a third tentatively planned, and a fourth suggested. Her light mechanized division (Division légère mécanique D.M.L.) is organized into two brigades, as shown in Figure 1. The dragons portée are equivalent to motorized infantry; they are mounted in light trucks and are provided with transportation for all personnel and weapons.

Mechanized cavalry units have motorcycles that accompany most of their cars as a holding echelon, and for communication purposes. The present tendency in these units is to increase mobility, even at the expense of power. Due to the excellent road net in France, this system is quite satisfactory.



World Wide Photo.

A British Combat machine of recent development.

The French mechanized force is a powerful weapon provided for the high command. It is designed to effect distant and rapid reconnaissances involving combat, to occupy and hold strategic positions pending arrival of slower troops, to carry out cavalry missions with increased speed and radius of action and to meet the attack of large hostile mechanized forces.

The French believe that mechanized forces will play an important part in preliminary operations and in exploitation

after a successful attack. However, they believe that in order to break through a strongly organized defensive position the attacker must still rely on the superiority of artillery to open the way for his infantry.

Mechanized units are costly to create and to maintain and for this reason mechanization has been solely confined to the cavalry. The French Army trends are towards mechanization rather than to motorization. They believe that armies must make greater use of fast moving vehicles; they see the army of the future as the large army used during World War, not mechanized, but motorized. They think of mechanization as applying to a special mechanized force. There seems to be little sympathy with the thought of small armies in future wars. This is quite natural as the colonial resources in manpower are too great an asset to be lightly put aside. In France, the proponents of mechanization have not been as active as those in other countries; but, on the other hand, plans for motorization are very comprehensive. The best French thought conceives that the army must be motorized as soon as possible and that fast moving machines are needed to increase the mobility of modern forces.

The French doctrine still is: "artillery takes the ground the infantry occupies, consolidates and holds it."

GREAT BRITAIN

The British have traditionally relied on sea power, reinforced by air power, for protection of the homeland and the colonial empire. She has come to regard the Mediterranean sea as somewhat her own property, because she holds Gibraltar at the western entrance and controls the Suez Canal in the east, placing her in a favorable position to defend her road to India. If fighting occurs it will probably take place on some other nation's soil. They visualize the use of the army on the continent or throughout the Empire. Great Britain has no one particularly enemy; traditionally her policy is in opposition to the conscriptive military system of Continental Europe.

British enthusiasm for fighting machines began with the men who first saw tanks in action, and this enthusiasm increased after the smashing attack of nearly four hundred tanks at Cambrai. By the end of the World War, the British had the best tanks in existence and they had acquired definite ideas of how to use them. Her responsible civil and military leaders are definitely committed to the policy of motorization and at present all infantry battalions at home have been completely moto-mechanized.

The British Army is organized and trained, primarily as an expeditionary force. In India, the most likely scene of conflict is on the northwest frontier, in a mountainous region entirely unsuited to machine warfare; consequently, the Indian Army does not require the full measure of mechanization that is desired for home units. Clashes between Moslems and Jews in Palestine may attain such proportions that Great Britain may be compelled to send an expeditionary force to preserve order there. British foreign policy indicates Europe as a very possible theater of war; there the terrain is generally suitable for mechanized warfare; moreover, if a British Army ever fights on European soil it will probably be alongside of the French Army. Under such conditions, the expeditionary force might well be top heavy with mechanization. There is a strong sentiment in Britain that

that expeditionary force must be ready when the need arises and for this reason the immediate organization of mechanized forces is considered urgent.

On 7 March 1938, Mr. Chamberlin in a speech in the House of Commons, designated the objectives of Great Britain's policies, as follows:

1. The protection of Great Britain.
2. The preservation of the trade routes upon which this country depends for its food and raw materials.
3. The defense of British territories overseas from attack, whether by sea, land or air.
4. Cooperation in the defense of the territories of any allies we might have in case of war."

After the Prime Minister had indicated the military objectives of Great Britain's policy, the Secretary of State for War, Mr. Hore-Belisha, made it clear that a British expeditionary force in the future would not consist of a few stereotyped divisions. "From now on," he said, "there are to

Highlanders, are being converted into machine-gun battalions, and are being equipped with armored machine-gun carriers. In addition the 3d Carabiniers and the 17/21st Lancers are being converted to light tank units. This is part of the scheme to replace the five British horsed regiments plus the eight light tank companies in India by four British cavalry light tank regiments.

In regard to tactical doctrine, the British remember the lessons of the World War. They foresee the future possibility of again being called upon for a military effort in Europe. They visualize a rapid moving, hard striking force, capable of executing wide encircling operation or quick, deep penetrations into rear areas. They would avoid, above all, the defensive action and stabilized warfare of the past.

Ten of the 22 cavalry regiments will be mechanized or motorized. The two-brigade cavalry divisions of the expeditionary force will be converted into a mobile division, consisting of units shown in Figure 2.

The important factor regarding mechanization in the British Army that should always be kept in mind, is that

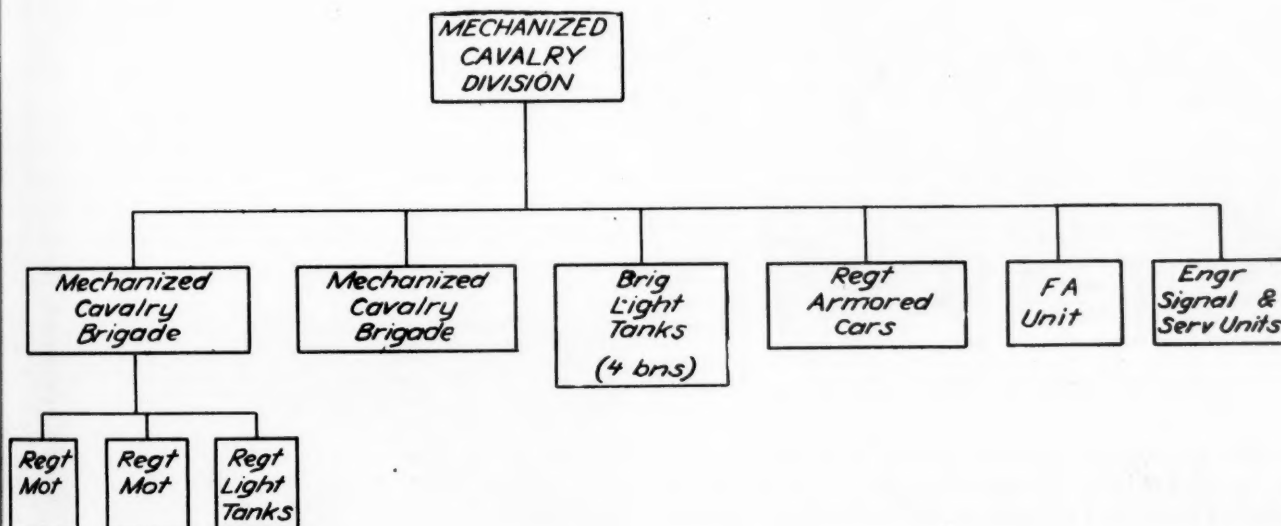


FIGURE 2.—British Mechanized Cavalry Division.

two types of divisions and variations within the types. One type will be a motorized division, based on the light machine gun, much the same as existing divisions, which are already more than 50 per cent motorized. The other type will be a mechanized armored division, based on the tank. Regarding the heavy machine-gun battalions, a proportion of these will be retained as corps troops; the remainder will be converted into light machine-gun battalions and will form the nucleus of the motorized divisions. The strength of the modern army," Mr. Hore-Belisha continued, "is based not on the individual, but rather on fire units, which combine firepower and mobility."

The British Regular Army in India is being mechanized. In a way of falling into line with home practice, four British regiments: the 1st Royal Fusiliers, the 1st Devons, the 1st Royal Scots Fusiliers and the 2d Argyll and Sutherland

according to its mission, the Army will probably be fighting in conjunction with one or more continental allies—and in that case it will furnish, as a matter of fact, the mechanized force for the allies with whom it may be associated.

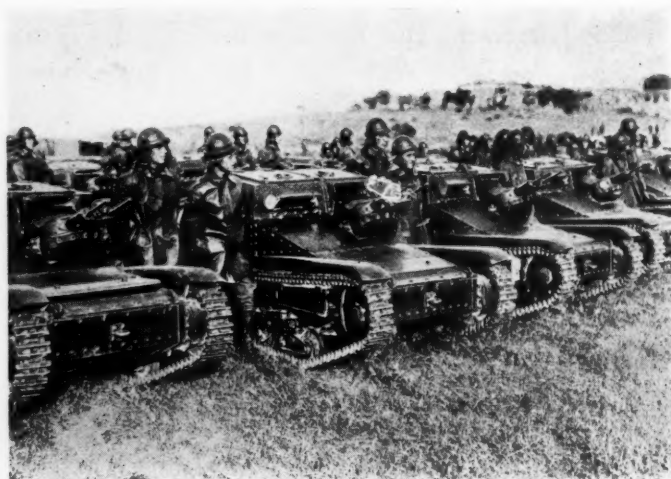
GERMANY

The mission of the German Army is aggressive, at present seeking aggrandizement of national territory in the direction of Czechoslovakia or Poland. By her recent annexation of Austria, an area approximately equal to that of the state of Maine has been added to her territorial limits and her population has increased from 66 millions to about 74 millions. The Austrian Army of 70,000 Regulars and the 190,000 reserves are being rapidly transformed into Pan-German forces. Her next most pressing military problem is the elimination of Czechoslovakia. Traditionally the enemy of

France, she has built a splendid road net in the southwest, especially suitable for the use of mechanized forces. It is reliably reported that Hitler is rapidly fortifying the Rhine frontier to meet a French attack.

The terrain of operations of the German Army will be, initially at least, on some one of the neighboring nations' soil.

Germany, formerly tied by the provisions of the Treaty of Versailles, which she repudiated in 1935, has made herself free to acquire the most modern equipment. Her equipment is new and embodies all modern improvements, outclassing those nations which have been tagging along with their old materiel, some of which dates back to the World War. She anticipates battle with an adversary strong in armored vehicles. The infantry division is equipped with 54 antitank guns, which will be increased to 72, according to reports. The French division has 48.



Acme Newspictures.

Italian Baby Tanks manned by Young Fascists.

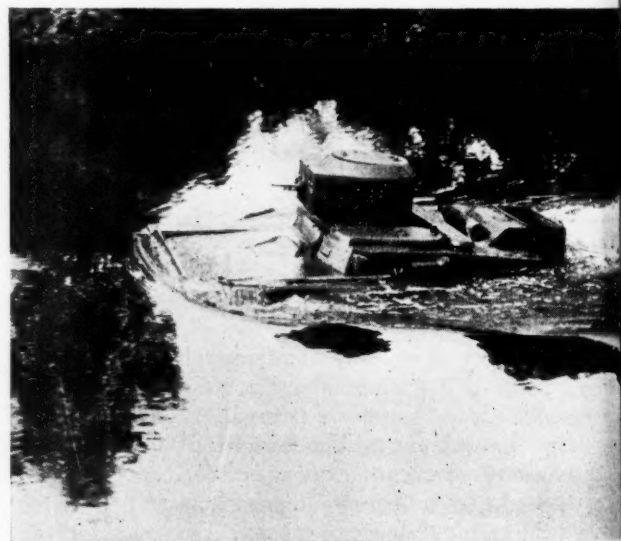
Germany, according to reports, has three armored divisions, which are being expanded into six. The division organization is believed to be as shown in the Chart. (Figure 3.)

The German tactical doctrine contemplates a strong, swift stroke, sustained by manpower, to maintain the conflict in hostile territory. These mechanized divisions are designed to provide a powerful, fast striking weapon for surprise use in the initial stages of the campaign. This mechanized force will strike hard enough and far enough into hostile territory to frustrate the enemy's mobilization and disrupt the enemy's initial defensive dispositions in such a way that the supporting German forces will be able to secure an early victory. An example of the speed with which Germany expects to move her mechanized force was given by the lightning-like rapidity with which that powerful force was concentrated in Vienna last March, reaching Brenner Pass before the surprised Italians could realize the seizure of Austria. Germany attaches great importance to the early hours of the war and therefore, her strategy is based upon a war of quick decision, when her war machines, on land and air, will vigorously strike during the first days or weeks of the war and inflict defeat upon the enemy.

ITALY

The mission of the Italian army is for the defense of homeland and the preservation and enlargement of colonial empire, upon which Italy is dependent for her materials. She looks forward to power and expansion through future domination of the Mediterranean Sea, placing Great Britain in these waters. An invasion from the north, through Brenner Pass, has always been the uppermost concern of the Italians, fully remembering that since the days of Hannibal, all invasions of her soil have come through this strategic Pass. Italy wanted an independent Austria as a buffer state, because Germany was too big and strong a neighbor for comfort. On 25 July 1934, Italy mobilized troops on the Austrian border to protect Austrian independence when Austrian Nazis killed Chancellor Dollfus and Germany was then supposed to be planning the seizure of that country, as she did four years later. Many Italians believe that Mussolini was poorly treated by Hitler when the latter took Austria. Italians who remember Caporetto have no love for Germany and, despite Hitler's assurances of peace, friendship and the promise that Brenner shall forever remain the inviolate frontier between the two countries, there will always be a question in the Italian minds as to the sincerity of these promises, particularly considering that there are nearly three-quarters of a million Germans in Northern Italy.

Italy is very vulnerable to a strong sea power, but at present she is strong in the Mediterranean, due to the numerous submarine and air bases that she has prepared which threaten the life-lines of both Great Britain and France. She visualizes France as losing prestige among Latin nations and strongly desires to assume that leadership.



Wide World

A Russian Amphibian of a new type.

During the last few years, Italy has been experimenting with major units of three distinct types: the fast (Celer) division, the motorized division and the mechanized brigade.

The purpose of the fast division is to make long, rapid movements and to arrive on time; then, at the designated place, to deploy fire power sufficient to accomplish its mission.

mission. To this end, the division is composed of two parts: cavalry, motorcyclists and fast cars, for speed; portée units and artillery, for fire power. It is a long range reconnaissance and combat force, extremely mobile and little exposed to ground or air attacks. The cavalry and the cyclists can negotiate difficult terrain and engage and break combat with ease. The fast division is particularly suitable for operations in the Northern frontier.

The purpose of the motorized division is to develop, when the occasion demands it, a very high power fire. It is, in substance, an infantry division transported in motors. It is capable of long, rapid movements; but at the moment of action it leaves its motors and fights like an ordinary division, reinforced by a strong mechanized echelon. Naturally, it is tied to the roads, and once committed to action, it becomes an ordinary foot unit and loses its value as a mechanized force.

These two units opposed each other in the Italian maneuvers last August* on the plains of Venice. Their identity of doctrine and equality of forces, led to a stalemate. The motorized division cut off the fast division from its base, and the fast division fell upon the rear of the motorized division, isolating this unit from the main body of its forces.

The purpose of this unit is to break the enemy's line, to open a gap through which other troops may penetrate and break down the enemy's further resistance. The mechanized brigade is, therefore, the keen edge of the penetrating wedge, but it can reach its objective only when properly provided with supporting artillery, as otherwise, the enemy's guns can prevent the brigade from reaching the defensive line, or at least, inflicting heavy losses. As the gap is opened, units from the rear—fast, motorized, or self-propelled—should be pushed into it to cause the enemy's general collapse, leading to what Napoleon called the "denouement." Many Italian military leaders believe that the mechanized brigade should be termed the mechanized division and that it should have one battalion of 100-mm and another battalion of 105-mm, and be further reinforced by army artillery, as the situation may require.

The national policy of Italy calls for a war of short duration, necessary because of shortage of essential raw materials. Accordingly, her strategy is based upon a quick victory, which is essential because her industries cannot be maintained nor her people fed if the gateways to the Mediterranean from the east and west are closed to her. In accordance with Mussolini's declarations, Italy evidently

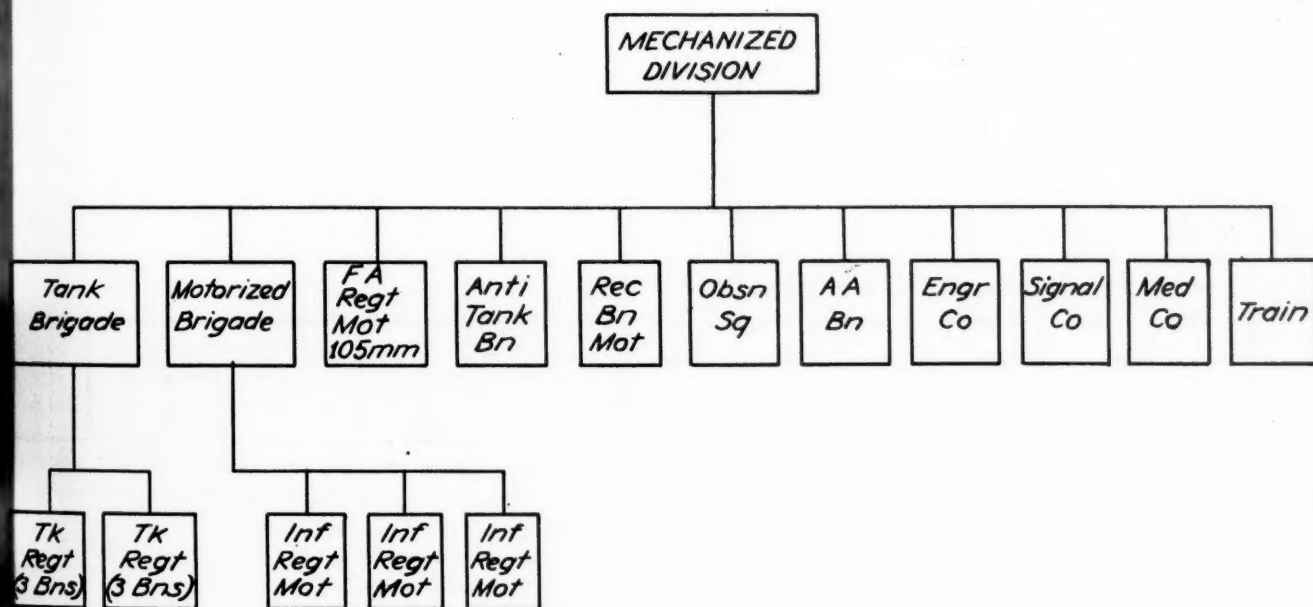


FIGURE 3.—German Armored Division.

General Pariani, in his final report of these maneuvers, remarks that "these two new types of units were used to oppose each other; but this should be considered as exceptional, for these units are intended for use in collaboration and probably assembled in larger units. This would make it possible to make a more logical distribution of duties for elements possessing great speed and maneuvering power, giving a combination which would have great combat strength."

The mechanized brigade (brigata corazzata), as tested in the maneuvers held in Sicily last August,† is shown in figure 4.

*See C&GSS Quarterly, March 1938, page 75.

†See C&GSS Quarterly, March 1938, page 71.

will use her air force more or less in accordance with Douhet's theory, striking terror and destruction into the hostile territory. She has practiced this type of warfare during the Ethiopian War and more recently in Spain, and apparently believes in the soundness of this doctrine.

RUSSIA

The mission of the Russian Army contemplates a war against Japan in the Far East, or against Germany, or Germany and Italy combined, in Europe, or possibly a war in the two theaters at the same time. The organization plans of the Red Army call for a program of defense on two fronts, thousands of miles apart.

According to reports, the Russian Army has five divisions and nine independent brigades, fully motorized, and a total of from 3,000 to 4,000 tanks, mostly Christie, manufactured in Russia. The mechanized force, according to the foreign press, comprises two motorized divisions, six armored car regiments and eighteen armored car groups. A number of units are equipped with amphibian armored cars, with a maximum speed of 40 miles per hour on land and seven miles per hour on water. All the cavalry divisions have been provided with a mechanized group of three squadrons of light tanks and armored cars. Due to the cloak of secrecy maintained, it is practically impossible to give the organization of the mechanized force with absolute accuracy, but there seems to be little doubt that Russia is thinking along mechanized lines and that probably within a few years she may achieve considerable development in mechanization.

The combat principles of the Red Army are based on the employment of mechanical equipment. "Modern assault weapons, especially tanks, artillery, aviation and mechanized forces employed on a large scale, make possible the organization of a simultaneous attack of the enemy on his entire battle front, so that he may be isolated, completely surrounded and destroyed." (Par. 112, FSR 1936.) And again, "the maneuver and attack of mechanized units should be supported by aviation." (Par. 7, FSR 1936.)

the mechanization of the Army of Atlantis. The Grand Study is attached as an appendix.

In arriving at the recommendations the factors you expressed were kept constantly in mind, and in addition, following were considered:

1. The tactical doctrines of the five major powers studied are frequently influenced by distinctive factors of geography and of national policies.

2. A military conflict of the future is inconceivable without the participation of air and armored forces. unquestionably, the evolution towards the machine is being accentuated daily.

3. The incontrovertibly established importance of aviation requires a speedy, aggressive and strong power on ground, to supplement and retain the results gained from aerial reconnaissance and combat.

4. The defensive power of the older arms is not great enough to repulse the attack of strong hostile armored forces nor is the penetrating power, mobility and speed of the older arms sufficient to drive the attack so rapidly and deeply into the hostile front, as to deprive the defender of sufficient time to take countermeasures.

5. Improvisations of mobile units have proven to be of little value, as it was borne out by the organization of

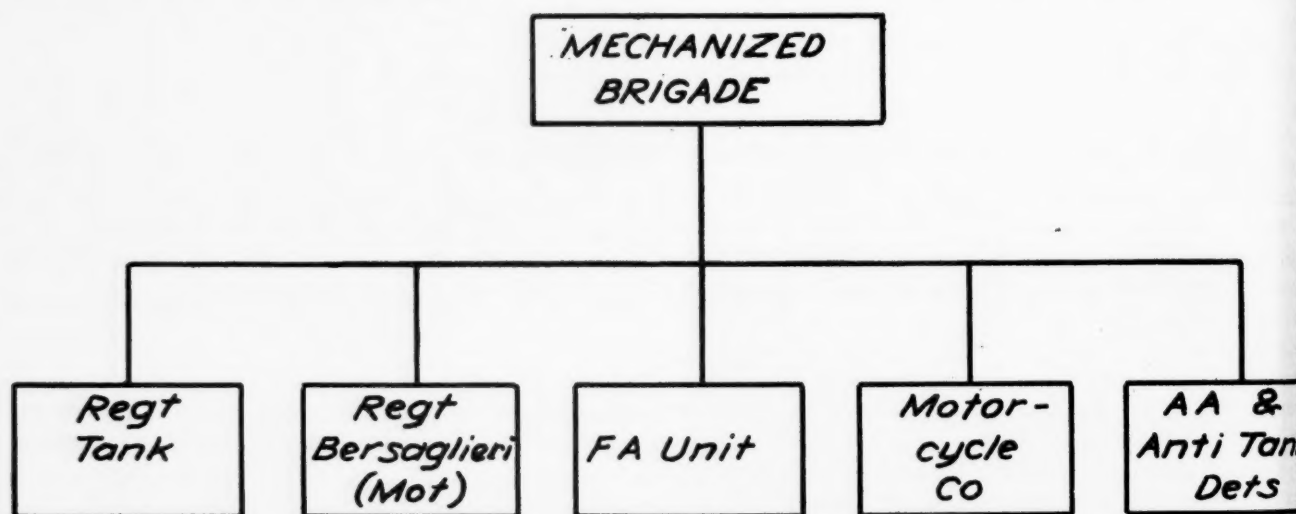


FIGURE 4.—Italian Mechanized Brigade.

CONCLUSIONS

As a result of the above study, the Chief of Staff submitted his report to the Secretary of National Defense. Based on the conclusions, the Secretary communicated to the Chief Executive as follows:

DEPARTMENT OF NATIONAL DEFENSE
REPUBLIC OF ATLANTIS
10 September 1938

THE CHIEF EXECUTIVE
REPUBLIC OF ATLANTIS

My dear Chief:

In compliance with your directive of 10 August 1938, I submit herewith the recommendations of my department for

German cavalry in 1914. A swift armored division should be organized that will form the nucleus of the mechanized force of Atlantis in case of war; a force receiving appropriate attention directly for its improvement and development, not as a part of any branch, but a force to which all branches of the service must contribute, whose tactics and training will break away entirely from the methods that were thought adequate for the cavalry or for the infantry and think matters out on an entirely fresh basis. This should in no way prevent the cavalry and the infantry from acquiring such mechanization to the extent necessary to enable these arms to better carry out their prescribed tactical functions. The fact that a mechanized unit fights in support of the infantry, or that it carries out a role once filled by cavalry, is an incidental matter.

6. This mechanized force, which we shall call the Swift Armored Division, should be used for strategic missions and for exploitation of a success, and its principal mechanized elements are the scout car and the combat car. These elements will be organized into three echelons: reconnaissance, support and assault.

7. The basic principles underlying the employment of the Swift Armored Division are: movement, surprise and the objective. It will be employed on defensive missions only in case of necessity and its relief from such missions should be effected at the earliest opportunity.

8. The Swift Armored Division is especially valuable in pursuit and delaying action. Its great mobility and fire power enables it to operate on a broad front, to beat the enemy to defiles and other critical localities, to carry out destruction on the enemy's routes of advance or retreat, to strike the enemy in flank or rear, or to deliver repeated attacks against his flanks.

9. The Swift Armored Division is especially adapted to use in an envelopment or turning movement and in the exploitation of a breakthrough. The most important factor to be considered in this type of operations is the terrain, and it will be the mission of the reconnaissance echelon to reconnoiter and seize favorable terrain for the action of mechanized vehicles. From this favorable terrain, the support echelon assists the attack of the assault echelon, and occupies the objectives secured by the latter. Thus the support echelon becomes the springboard from which the assault echelon makes its successive bounds to gain the ultimate objective.

10. Since there are three echelons, the Swift Armored Division should have three types of mechanized vehicles: fast scout and/or light armored cars, medium combat vehicles and combat vehicles of a heavier type, which will take care of the three different phases of battle: reconnaissance, development for combat and attack. The reconnaissance element of the mobile division will cover the division and penetrate or outflank the enemy's screen. This echelon will be reinforced by the support echelon, to develop the enemy's defensive dispositions and gain a suitable terrain from which to attack; finally, the assault echelon, comprising the mass of the division's mechanized force, will be launched by surprise and in several waves against the enemy's front or flank in order to gain a decisive success.

11. ATLANTIS has a large seacoast to defend, and a highly mobile force like the Swift Armored Division, will be extremely valuable as a mechanized general reserve, capable of reaching any threatened locality in a comparatively short time. This strong reserve, centrally located in rear of strategic sections of our coast, can meet the enemy at any point where a hostile landing is attempted.

12. It is believed that the proposed Swift Armored Division (Figure 5) is suitable to carry out all these missions and is particularly adapted to the terrain of operations where it will be employed. It is a well balanced, homogeneous unit, elements of which have the same rate of march.

13. The three mechanized regiments constitute the nucleus of the fighting force, which supported by motorized infantry, artillery and aviation, possesses speed, mobility and shock action; it is, in short, a modern weapon of pronounced striking power. The supporting motorized infantry will render valuable assistance in clearing defiles of hostile troops,

obstacles and road blocks, and can render important service as a holding force. Since the infantry regiment and the field artillery regiment consist of three battalions each, one battalion may be attached to each mechanized regiment in case that circumstances may make it desirable to do so.

The division reconnaissance unit, at the disposal of the division commander, gives a tool of reconnaissance, making unnecessary the detachment of similar units from the other elements of the division.

The observation squadron furnishes observation of the terrain over which the division will advance and fight, will furnish battle reconnaissance and lay, if necessary, smoke screens to blind or deceive the enemy. The attack aviation, which will always be available for attachment, can render great assistance by attacking those objectives which cannot



Wide World Photo.

German combat cars on the march in Austria.

be fired upon by the artillery. Its objectives will be, therefore, hostile antitank weapons, hostile artillery and reserves, beyond range of our own artillery or which may be unknown to the artillery.

Attack aviation may be the only means available to the enemy against a surprise attack of the mobile division; however, bombing must be used because the effect of aerial machine-gun fire against fast moving armored vehicles can be discarded. It is important, therefore, that the Swift Armored Division be provided with antiaircraft defense.

The Swift Armored Division must be characterized by high mobility, strategical and tactical simplicity and flexibility. Mobility requires that only essential elements be included. It requires a well balanced, self-reliant organization, which has within itself the means to overcome obstacles that will be encountered during the advance and in the battlefield. This requires an engineer unit, since it is believed that demolitions and obstacles of all kinds will be used to an extent never before seen in war.



Wide World Photo.

Italian Mechanization enroute to ADOWA over desert wastes.

Radio communication is essential to the command and, therefore, a signal unit is necessary.

Simplicity may be secured by limitations of vehicles to the fewest possible types. Combat cars should be equipped with one type of gun, thus facilitating procurement, training and ammunition supply.

Flexibility requires an organization that will permit the attachments of other units, such as motorized infantry, aircraft and cavalry, for special operations, or as additional support and striking power.

This office believes that mechanized forces are not only particularly suitable and necessary to the army of ATLANTIS, but that their creation will be facilitated for the following reasons:

1. The domestic facilities for the manufacture of armored vehicles in Atlantis is unsurpassed by any nation in the world. Industrial, material, scientific and financial resources are more than ample to produce and maintain necessary equipment.

2. It has been said that oil will dominate the next war and that it is even more important than munitions to modern fighting units. Atlantis has an overwhelming advantage on her side. Napoleon's armies moved on the stomachs, but the modern motorized and mechanized army move on gasoline. The German highly motorized mechanized army had considerable difficulties in its march on Vienna and it is said that a large portion of the mechanized and motorized units were left stranded on the roads never saw Austrian soil. The French General Staff, when Arno Dosch-Fleuret, has figured out that the oil needs of motor and lubricating oil—of modern armies, navies and fleets is so great that, in the event of war, the demand in Europe for war purposes alone would be nearly three times Europe's entire peacetime needs. Germany is supplying itself today from coal, mostly low grade coal and lignite, million tons of fuel a year. But in the event of war, she uses only a fraction of the oil that Germany will need for her armies. Shortage of oil will paralyze those motorized mechanized forces. The last barrel of oil of a beleaguered army will be as dramatic as the last cartridge.

3. The demand for greater speed and mobility is in accord with Atlantis' plan of national defense, a plan based on a small, highly efficient force. The citizens of Atlantis are thoroughly accustomed to the use of mechanical devices. They have a larger number of mechanics than any other nation in the world. Members of Parliament appreciate the value of fighting machines, recognize the needs of a well equipped, modern, mechanized force, so that, as an entirely independent entity, it will be in a favorable position when the time comes to grant the necessary funds.

4. Fighting machines suit the national character of the citizens of Atlantis. They appeal to their desire for energetic and swift decision.

Respectfully submitted,

B,
Secretary National Defense

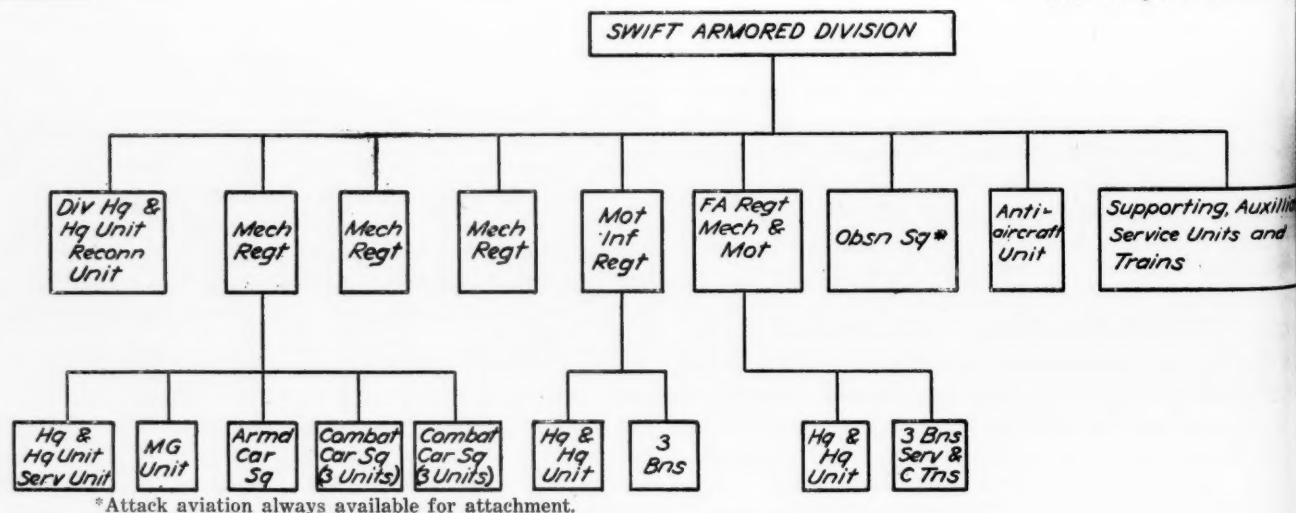


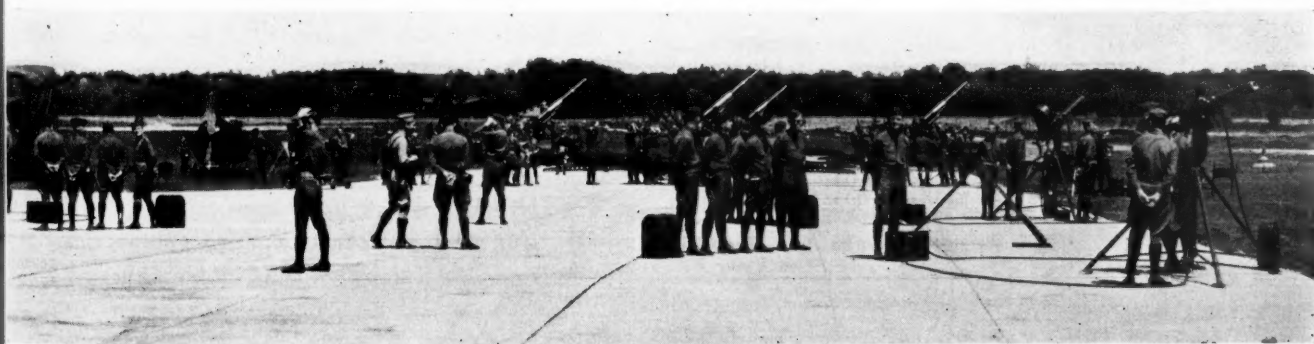
FIGURE 5.—Swift Armored Division of Atlantis.

The authors have endeavored to present in this study a balanced mechanized force of strong fire power, great mobility and heavy shock action, independent in organization, a force pertaining to no one branch. On such a controversial subject, it can hardly be expected that there will be unanimity of agreement. This general study is presented as the

basis of discussion of a problem the satisfactory solution of which should be under constant discussion. The mission of this publication will have been fulfilled if this article serves to inspire vigorous thought on one of the most widely discussed subjects that is occupying the minds of the most brilliant military leaders in the world today.

"In some countries of the world, man is held cheap. In the United States, on the other hand, we have the utmost respect for human life . . . Consequently, in our national defense program of today we have placed great emphasis upon equipment, supply and transportation . . . We have developed an automotive program which looks toward an army on wheels which will operate more speedily, fight more efficiently and suffer less severely than our military forces of yesterday."

—Assistant Secretary of War Louis Johnson.



United States Army Anti-aircraft troops.

U. S. Air Corps Photo.

Military News Around the World

BY MAJOR E. M. BENITEZ, C.A.C.

GENERAL

The gasoline, Diesel motor and the adaptation of armor to war machines have fostered a world-wide development of mechanization and motorization. Japanese tanks rumbling through China, armored cars lumbering through ruined towns in Spain, Germany's "Panzer" divisions and Czechoslovakia's mechanized units maneuvering in mimic wars, France displaying its mechanized units at the recent military review in honor of the British sovereigns, Italy's moto-mechanized forces rehearsing in the Dolomite Alps and Sicily and mechanized cavalry brigades on iron horses practicing the swift, implacable assault, leads the world to believe that war machines will be used in the future on a larger scale than have hitherto been known in past or present wars.

These machines move on gasoline and, therefore, those countries which have or control the world's oil resources will have an overwhelming advantage on their side. It seems appropriate to study the world's oil production as given below.

The following figures from International Petroleum Trade, Vol. 7, No. 3, show the outstanding producers of petroleum in the world during the years 1935, 1936 and 1937:

COUNTRY	1935		1936		1937	
	Quantity (thousands of barrels)	Per cent of total	Quantity (thousands of barrels)	Per cent of total	Quantity (thousands of barrels)	Per cent of total
World production	1,654,688	100	1,801,786	100	2,040,531	100
United States	996,596	60.2	1,099,687	61.0	1,277,653	62.6
Soviet Russia*	182,386	11.0	197,418	11.0	199,475	9.1
Venezuela	148,529	9.0	154,794	8.6	185,701	9.1
Iran	57,304	3.5	62,699	3.5	78,741	3.9
Netherland India	47,171	2.8	50,026	2.8	56,275	2.8
Rumania	61,310	3.7	63,655	3.5	52,176	2.5
Mexico	40,241	2.4	41,028	2.3	46,907	2.3
Iraq	27,311	1.7	30,037	1.7	30,604	1.5
Colombia	17,595	1.1	18,752	1.0	20,293	1.0
Peru	17,067	1.0	17,593	1.0	17,467	0.9
Argentina	14,297	0.9	15,458	0.8	16,236	0.8
Ecuador	1,732	0.1	1,951	0.1	2,161	0.1
Bolivia	164		105		122	

*Exclusive of Sakhalin.

(Bulletin of the Pan American Union, June 1938)

ARGENTINA

Argentina has decreed new barriers against foreigners to assure selective immigration, preferably of farmers with



Iron, Coal and Oil Fields of Central Europe

enough resources to establish themselves. The decree became effective 1 October 1938, and is understood to have been drawn because of the great number of Central Europeans desiring to enter Argentina.

BELGIUM

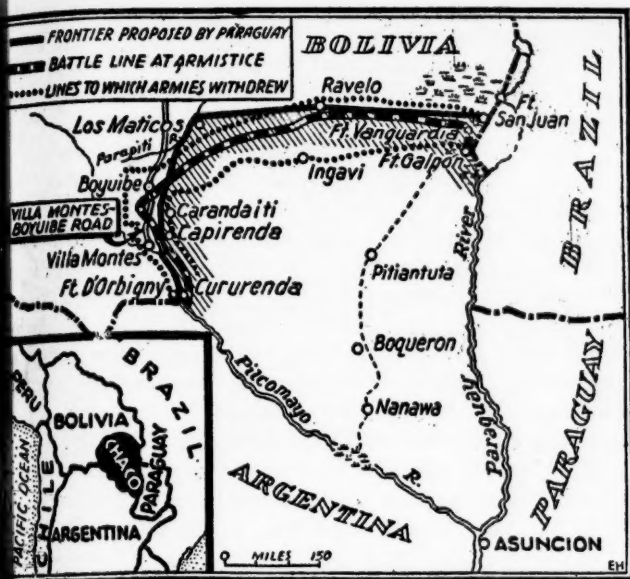
Belgium is surrounded by neighbors possessing huge armies and, consequently, she fears the ruin of cities if war comes. This explains why the Belgian government today is working feverishly to protect the civilian population against air attacks.

According to reports, air raid shelters already have been constructed in many Belgian cities. Some shaped like beehives, can accommodate 20 persons. A few can hold as many as 700. Other shelters have been built in underground cellars. Air raid alarms are carried out on Sundays to accustom the people and training the inhabitants for air precautions.

(United Press)

BOLIVIA

A century old dispute between Bolivia and Paraguay which has caused much bloodshed, over a boundary in



Friendly Settlement of this Chaco Boundary Question

Chaco region ("Green Hell"), has been settled by peaceful means after months of arbitration by diplomats of the following six nations: Argentina, Chile, Brazil, Peru, Uruguay and the United States. Paraguay will ratify the treaty by submitting it directly to the people in a plebiscite, while Bolivia will indicate its approval through a vote of Congress. Popular approval in both cases is accepted as a foregone conclusion.

Under the terms of the treaty of "peace, friendship and boundaries," the 100,000 square miles of Chaco jungle and swamp will be divided. Paraguay, which held the upper hand when hostilities ended, will get most of the wilderness; Bolivia is assured a free port on the upper Paraguay River, giving her access to the sea.

BRAZIL

All branches of the petroleum industry of Brazil were nationalized by decree-law 935 of 29 April 1938. The supplying of petroleum is made a public utility, which means that the production, importation, transportation and sale of crude petroleum and its derivatives and the refining of imported petroleum are subject to regulation by the Federal Government. All refineries of national or imported petroleum, must be owned and operated by native Brazilians, and the percentage of foreign employees may not exceed that established by the general law on this subject.

BULGARIA

Bulgaria's old enemies, the Allied powers of the World War, chorused approval of Balkan action freeing Bulgaria from postwar treaty restrictions on armaments and armies.

At the same time there appeared to be no bar to similar action by Hungary, the only nation still nominally bound by the restrictions imposed by the victorious Allies.

Others of the wartime central powers—Germany and Turkey—already have thrown off rearmament bonds.

CHILE

The winners of six engineering scholarships, annually granted by W. R. Grace and Company, in collaboration with the General Electric Company, to university students of Peru and Chile, were announced last March. The scholarships were first awarded in 1937, to Chilean graduate students, and the results, according to the donors, have been most successful.

CHINA

Anking, captured 13 June, was the ninth Chinese provincial capital to fall to Japanese armies since the undeclared war on China started on 7 July last year. There are still fifteen unconquered.

In the order of their capture, the other conquered capitals are Kalgan, Chahar Province; Paoting, Mope; Kweisui, Suiyan; Taiyuan, Shansi; Chinkiang, Kiangsu; Hangchow, Chekiang; Tsinan, Shantung, and Kaifeng, Honan.

Nanking, the national capital, was captured on 13 December.



Chinese Communications through French Indo-China

Now that the Japanese are making serious efforts to cut off the Canton-Hankow railway, the Chinese are redoubling their efforts in Yunnan Province, in order to have an emergency gate of communications with the outside world. Plans have already been made for the improvement of all highways leading to Kunming, the construction of a new highway to connect Kunming with one of the railways in Burma, and the repair and extension of the highway to Sinkiang. Yunnan will be, therefore, the new keypoint of China's communications with the outside world, should the Japanese succeed in cutting off the Canton-Hankow railway, which has been the main supply line of the Chinese armies.

(New York Times, 7 August 1938)

COLOMBIA

One of the worst aviation disasters of modern times occurred at Bogota, Colombia, on Sunday, 24 June 1938,

when a stunting plane crashed into a reviewing stand killing 35 persons and injuring more than 100. President Alfonso Lopez and President-elect Eduardo Santos, who were reviewing the military exhibition were unhurt.

COSTA RICA

The chief exports in 1937 were bananas, cacao and coffee. The United States, Great Britain and Germany, in the order named, were the chief purchasers of Costa Rican products, while the United States, Germany and Japan led in supplying imports.

CUBA

The Cuban Government conferred upon Major Andrew Summers Rowan, the Order of Carlos Manuel de Céspedes, Cuba's highest honor, last August. Thus, 40 years after the event, did Cuba honor the hero who "carried the message to Garcia." It was an oral message from President McKinley to General Calixto Garcia, leader of the Cuban insurgents inquiring about the strength of the Cuban forces that were to collaborate with the U. S. Army in fighting the Spaniards in Cuba.

CZECHOSLOVAKIA



Wide World Photo.

Czechoslovakian armored cars parading the streets of Prague

According to reports the Czech defense system is based on a triple ring of forts, fields covered with barbed wire and mined roads and bridges. The first line, directly on the border, was started some seven years ago. Since the annexation of Austria the line has been extended so that now it covers the length of the German frontier.

About 30 miles behind the first line is a second string of fortifications. This is the strongest of the three, and the one the Czechs are determined to hold.

It appears to be the intention of the army to destroy the Skoda munitions works at Pilsen and transfer the employees, most of whom are Czechs, to shadow factories which have been built in Slovakia.

The army thinks it can have 1,000,000 men under arms at the end of a week, all defending the second line, each

equipped with a sub-machine gun for no Czech soldier carries the ordinary rifle.

The third line is around Prague, about 15 miles from the city limits. It will be defended at all costs, but government officials will move to Kaschau in Slovakia.

This war-born republic, which fears dismemberment at the hands of Germany, has issued several military decrees recently tending to strengthen her national defense. Compulsory military training was specified for all children over 6 with the exception of those who normally would be exempt from physical training. Boys not attending school are required now to devote 70 hours annually to military training until they are 17, and thereafter 90 hours annually until they enter military service. Girls must devote 40 hours annually to first aid and air defense training until the age of 21, and thereafter 30 hours annually until the age of 30.

On June 3, the Czechoslovakian government decreed that all motion-picture houses must be equipped with masks for patrons and employees within a month. Local police will allot gas mask quotas on the basis of the seating capacities of the nation's theatres.

(Associated Press and United Press)

DENMARK

The third of the new submarines under construction for the Royal Danish Navy has been launched recently and christened the Havfreun. It displaces about 400 tons, has an armament of five 1.8 torpedo tubes, one 3-inch gun and two 1.6-inch anti-aircraft weapons.

(U. S. Naval Institute Proceedings, July 1938)

DOMINICAN REPUBLIC

On 27 February 1938, the Independence Day of the Dominican Republic, President Trujillo presented to the National Congress the account of his administration for the year 1937.

Revenues for 1937 reached a total of \$11,561,868, an increase of \$790,600 over the preceding year. The principal commodities exported were sugar, cacao, coffee, tobacco and corn.

ECUADOR

Frontier clashes between Ecuador and Peru occurred on June 3, in the Napo region over which both nations claim sovereignty. Delegates of the two nations have been meeting in Washington since September 30, 1936 in an effort to settle amicably this old boundary question, but their frequent conferences have so far produced no solution to the Orizaba land division problem. It is believed, however, that a friendly solution to this question will be found.

(Associated Press)

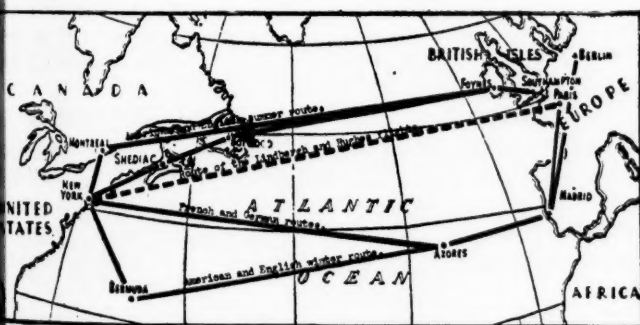
FINLAND

The 1940 International Olympic Games will be held in Helsingfors, capital of Finland.



Scene of Border Rows between Ecuador and Peru

FRANCE



Trans-Atlantic Routes

The French and Portuguese governments have reached an accord giving France the right to use the Azores Islands, in the Atlantic ocean, as a landing base for a French North Atlantic aviation service.

The United States, Great Britain and Germany all have received permission from Portugal to use the Azores for proposed trans-Atlantic lines.

On June 14, the French cabinet announced it had adopted a decree increasing the number of officers and men, the third large increase in France's armed forces within

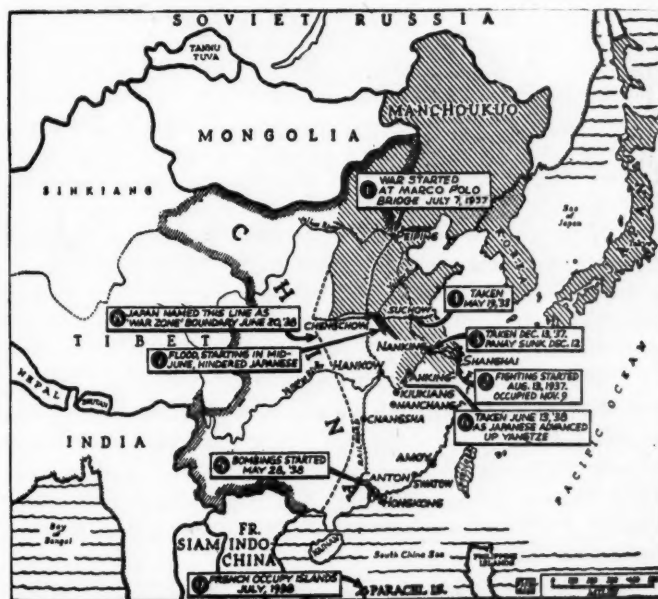
three months. In addition to a renewal of recruiting of an unannounced number of soldiers for the Regular Army, preparations were made to take 4,000 captains and lieutenants from the reserve forces.

The French army, now 800,000 strong, is expected to reach 900,000 by the last of this year. In 1940 it is to be 1,000,000, the figure at which it will be stabilized unless the present two-year term of compulsory service is increased.

A measure to conscript the entire nation in war time was approved by Parliament on June 17. This bill was originally introduced in 1923 and it was taken off the shelf this year, owing to the war scare created by the German annexation of Austria and the German threat to Czechoslovakia. It was rushed through the Senate and approved, with some amendments, by the Chamber, on the same day. This bill provides for mobilization of all the national forces in time of war as well as for coordination of war preparations in time of peace. The entire population, men and women alike, will be conscripted for some kind of work in the event of war, and all profits arising from production of munitions and war materials are to be nationalized.

An order was placed on July 6th for 1,750,000 gas masks to be distributed free to Paris residents. The funds for the purchase of the masks were advanced by the city, but it will be refunded by the national government at some later date.

The French Foreign office disclosed on July 4, the occupation of the strategic Paracel Islands, in the South China



France occupies Paracel Islands

Sea where French and Japanese interest clash and near the sea lanes between Great Britain's Far East outposts, Hong-kong and Singapore. Although only a group of coral reefs, their strategic importance is rated high, as they would serve as excellent seaplane bases in event of war. They lie 150 miles southeast of Hainan and 250 miles east of Tourane,



Escort to the King of England in Paris

Wide World Photo

one of the principal ports of the eastern coast of French Indo-China.

Hitherto, the Paracels have been ownerless, although Chinese fishermen have visited them for generations in search of turtles and birds' nests. According to French reports, their occupation was taken as a precaution in the event of Japanese seizure of Hainan.

Last June, France and England toasted their "perfect entente" as Paris enthusiastically greeted King George and Queen Elizabeth. Britain and France took this occasion to announce to the world—especially Rome and Berlin—that their alliance was permanent and unbreakable. As King George expressed it, "our relations have never been more intimate."

France paraded her military power for the British sovereigns. King George and Queen Elizabeth drove between lines of modern French tanks in the official procession in Paris on Tuesday, 19 June, and on Thursday a military review was staged in their honor at Versailles, in which 50,000 men participated.

According to press reports, the French Government is considering the use of "sound camouflage" to deceive the

enemy by imitating the noise of gunfire, airplanes, troops in the march, through loud speakers.

"Le camouflage sonore" may be adapted to offensive action, in order to deceive the enemy and attain surprise. Loud speakers will carry the sound of moving trains, marching infantry, rumbling trucks—all suggesting a mass troop movement. While enemy troops are being massed to meet this threat, a real attack may be launched somewhere else.

GERMANY

Now that German border fortifications are beginning to appear above the ground, the German government issued a proclamation on 30 July declaring the entire western border a "closed area," which nobody may enter without proper official identification papers.

The closed area (fortified area) is between 50 and 100 miles wide and includes the Netherlands, Belgian, Luxembourg, French and Swiss frontiers.

Germany has adopted a flexible system of fortifications which taking advantage of natural strongholds, consists of several lines of fortified points with strong underground



Germany Fortifies her Frontiers

ports, heavy guns, tank troops and barbed wire entanglements.

The Germans believe that the French Maginot Line is too rigid, already outdated, and assert that it can be broken.

(New York Times, 31 July 1938)



The German flying boat Nordmeer was catapulted from the deck of her mother ship off the Azores, 21 July, and landed in New York in 17 hours and 42 minutes later after a nonstop flight of 2,397 miles. The ship carried a crew of four men: the pilot, the co-pilot, radio operator and flight engineer.

GREAT BRITAIN

War Secretary Hore-Belisha announced recently lower retirement ages and higher retirement pay for the army. More than 2,000 officers will be promoted 1 August. The Secretary also promised speedy action on plans for evacuating London and other cities in the event of war.



The British Commonwealth of Nations

The term "British Empire" is obsolete. There is now a British Commonwealth of Nations. Canada, Australia, New Zealand, South Africa, Newfoundland and Ireland are equals in law with England. India and Southern Rhodesia also have the status of dominions in foreign affairs.

The Dominions of Canada and South Africa are full member states of the League of Nations. If England were involved in a war, the dominions through their elected parliaments would decide whether to intervene or not. They could, in theory, remain neutral.

Beginning the 1938 series of survey flights across the Atlantic, the British pick-a-back plane, Mercury, took off from its mother ship off Foynes, Ireland, 20 July, and landed in New York 25 hours later. The ship carried only a two-man crew: the pilot navigator and the radio operator.

The Air Ministry has announced recently the formation of three Balloon Barrage Squadrons for the defense of London and its environs. Eventually there will be seven. Each squadron will have between 40 and 50 balloons, about 500 being required for London.

The object of the barrage, as is generally well known, is to force enemy aircraft to a height at which they can be effectually dealt with by aircraft and anti-aircraft guns. Being moored to motor trucks, the balloon barrage can be quickly towed to any threatened area, and constitutes a mobile barrier.

The anti-aircraft defenses of London, according to a speech made in May 1938 by Mr. Hore-Belisha, had a

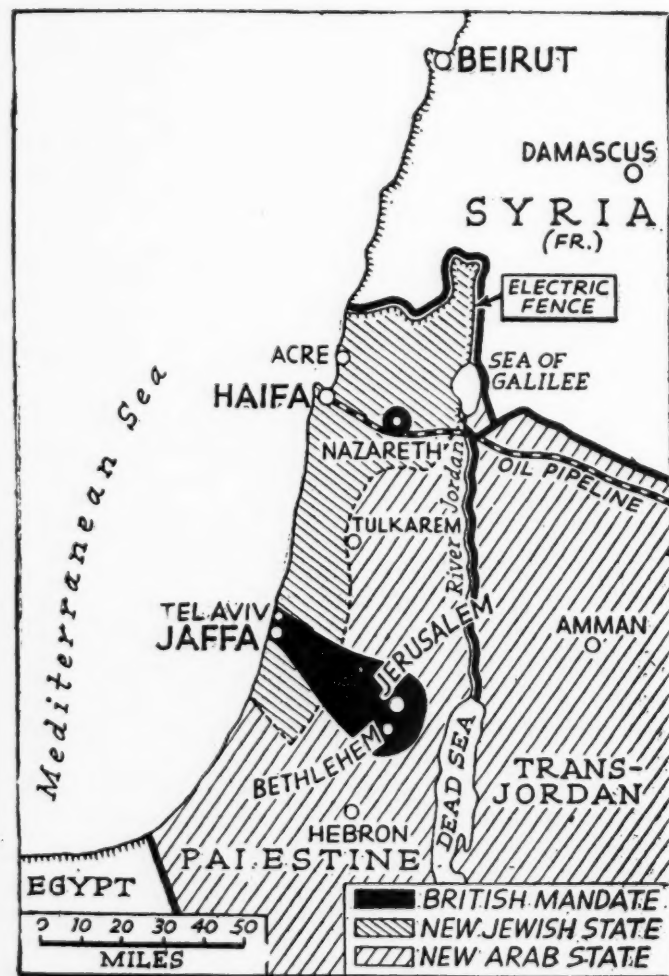
strength on May 1, 1936 of 5,780 officers and men. On May 1, 1938, it was 39,999 and at present is over that number.

(United Services Review, 26 May 1938)

In June 1919, at Scapa Flow, the crew of the German imperial battleship "Grosser Kurfurst" opened the valves and fled. It was one of more than twenty German ships interned there under the terms of the armistice, which loyal sailors sent to the bottom rather than let the vessels go to the Allies. For nineteen years this battleship lay in the mud at the bottom of the sea, but now Great Britain needs scrap iron for new war machines and the big battleship has been raised for the smelters.

Dr. Douglas Hyde, 78 year old scholar, became the first President of Ireland under the new Constitution, in a brilliant ceremony at Dublin Castle on 25 June. He is a Protestant, who apparently possesses the confidence of both Ireland and Northern Ireland.

British troops stationed at fortified Irish ports will be replaced by Irish soldiers, and it is understood that new guns will be installed, as some of these fortifications are forty years old.



Scene of Riots in Palestine

Serious riots between Arabs and Jews, the worst since 1936 have recently occurred in Palestine. Main trouble spots were Haifa, chief port of Palestine and terminus of the oil pipe line, Jerusalem and Jaffa. Reports tell of the infiltration into the Holy Land of Transjordanian Arabs to join their fellow Arabs of Palestine in the struggle against Jews and Great Britain.

Just a year ago, without prior public debate and without consulting the wishes of either Arabs or Jews, the British government adopted a plan for a tripartite partition of Palestine. The Holy Land was to be divided into a Jewish state, an Arab state united with Transjordan and a British mandate over the holy places with a corridor from Jerusalem to the sea. It has not been possible to put the plan into effect, the plan proving to be very unpopular with both Jews and Arabs.

GREECE

The torpedo boat George I, built by Yarrow and Company, was launched on 3 March. It has a speed of 35 knots, a displacement of 1,350 tons and its armament consists of four 4.7-inch guns, 6 or 7 anti-aircraft machine guns and eight 21-inch torpedo tubes.

(U. S. Naval Institute Proceedings, July 1936)

GUATEMALA

A resolution of 28 January 1936, fixed 4.80 pesos (or 1/2 of a quetzal) per day, as the minimum wage for laborers (braceros) engaged in agricultural work.

(Bulletin of the Pan American Union, July 1936)

HAITI

The minimum wage of employees and day laborers in public services in Haiti (not including paid domestic servants) is to be 1.50 gourdes per day, and it shall not be liable to attachment beyond one-tenth of its total, according to law of 10 August 1934; not more than one-third of the salary of salaried employees and clerks is liable to attachment.

(Bulletin of the Pan American Union, July 1936)

ITALY

On the occasion of Hitler's visit to Italy last May, the Volkischer Beobachter, published a brief account of the Italian Army.

According to that publication, the Italian Army is well equipped, disciplined and trained; it has an effective force of 250,000 men; it is an army composed of cadres which were brought up to strength during certain periods of the war. It comprises 4 Army Groups, 15 army corps, 34 infantry divisions, 5 mountain divisions, 3 fast divisions, 2 motorized divisions and several independent mechanized brigades. This should be added the army and corps special troops. Italy can raise an army of 9,000,000 men.

The Colonial army in Lybia and Eastern Africa comprises 100,000 men—white and colored; of this number, two corps are stationed in Lybia.

The mission of the Italian Army is to protect the European frontiers and safeguard the Italian interests in North and East Africa.

The Italian Air Force is a highly trained unit, consisting of from 60,000 to 70,000 men.

JAPAN

Last July the Japanese Cabinet recommended that Japan withdraw its invitation to hold the 1940 International Olympic Games in Tokyo. The Cabinet's move was probably due to the costly war in China, the necessity for national thrift and the belief that the "Japanese spirit" would be weakened by the international spirit of the Olympics. The games will be held at Helsingfors, the capital of Finland.

MEXICO

A Montreal firm, the Canadian Car and Foundry Company, has entered into contract with the Mexican government for the construction of aircraft in the military shops of Mexico City, 10 training machines and 40 military two-seaters having been agreed to as an initial order.

(United Services Review)

NETHERLANDS

Japan's military campaign in China has aroused apprehension in Netherland India. If open warfare happened to deprive the Japanese of the American supply of oil, Japan might push south toward the rich store of fuel in the Dutch East Indies.

Netherland is creating a big fleet of heavy bombers, torpedo craft and mine layers.

The army strength stands at about 40,000 (32,000 in 1936). Two divisions, thoroughly equipped, could be put into action.

There are now about 7,000 Japanese in Netherland India. There are 1,200,000 Chinese, of whom around 700,000 were born in China.

The Dutch Army is to be increased by 7,000 men, and those who were due for return to civil life last March, have been retained and sent to reinforce guards on the Dutch frontier.

(United Services Review, 26 May 1938)

NICARAGUA

The surveyed route of the proposed Canal across Nicaragua starts from Greytown on the Caribbean, via the San Juan River and Lake Nicaragua, to Brito on the Pacific.

It would take a ship 25 to 30 hours to pass through the projected canal, in contrast to 7 to 8 for the Panama Canal.



Projected Nicaraguan Canal

NORWAY

The annexation of Austria has completely reversed Norwegian minds in regard to national defense. In April 1937, the unusual amount of 21,000,000 crowns was appropriated for national defense slightly against the wish of the cabinet. This same government has just proposed extraordinary appropriations totalling 52,000,000 crowns, a sum about equal to that of the national defense's ordinary budget.

(Le Yacht)

PANAMA

Panama shipping tonnage now stands first among Latin American countries. Foreign firms have found it very convenient to register their ships with the Republic of Panama and at present her registered merchant fleet consists of 120 seagoing vessels. The increase on this year's registry is 12 ships of which 6 were an exchange from another flag.

(U. S. Naval Institute Proceedings, July 1938)

PERU

The Peruvian exports in 1937 amounted to \$151,363,000, an increase of 13 per cent over 1936. Imports from the United States in 1937 showed an increase of 30 per cent; the next competitor is Germany.

At its meeting of 1 June 1938, the Governing Board of the Pan American Union approved the final text of the program which will serve as the basis of deliberations of the Eighth International Conference of American States, to be held in Lima next December.

POLAND

Major Waclew Makowski and four other Polish fliers landed at Warsaw on 5 June, completing a 16,500-mile flight by a roundabout route, from California.

The five, flying a twin-engine Lockheed American transport plane, left Los Angeles 13 May. They flew to South America and crossed the South Atlantic from Natal, Brazil to Dakar, French West Africa.

PORTUGAL

A Portuguese Air Mission is to visit England in the near future to take delivery of 15 Gloster Gladiator single-seater pursuits ordered by the Portuguese Government last January.

(The Aeroplane, 22 June 1938)

England has had a military mission in Portugal since last February. It is reported that she has decided to supply Portugal with heavy and light artillery and extend substantial loans or credits to her old ally, alarmed by the apparent determination of Germany and Italy to retain a stranglehold on Spain and to dominate Portugal.

It is said that the Rock of Gibraltar, once considered impregnable, will be modernized with some of the latest artillery and anti-aircraft batteries for defense against reported Italo-German guns at Algeiras and Ceuta, not to mention bombing planes from Spain, Spanish Morocco and the Balearic Islands.

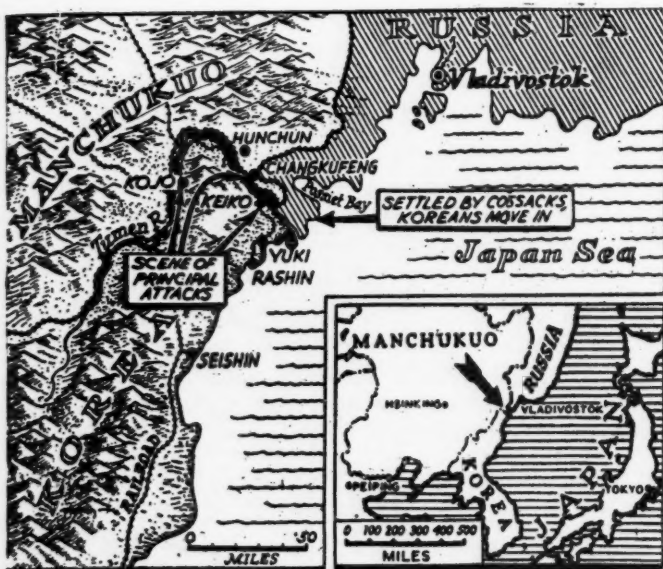
RUMANIA

Queen Marie of Rumania, one of Europe's most colorful personalities, died 18 July, in the royal palace at Sinaia, at the age of 62.

RUSSIA

The Soviet Union has at present from 34 to 36 cavalry divisions, 23 of which are in Europe.

In Europe, half of the cavalry is stationed in the three western military districts (Leningrad, White Russia and Kiev).



Scene of armed clashes between Russian and Japanese troops

The cavalry stationed at the frontier is reinforced by three moto-mechanized divisions and by strong air forces.

The cavalry division comprises two brigades, an artillery regiment (horse), one chemical squadron, one engine squadron, two communication squadrons and a moto-mechanized group of three squadrons with 54 tanks.

(La France Militaire, 26 February 1938)

Diplomatic relations between Japan and Soviet Russia neared the breaking point as clashes between armed forces of the two nations occurred 29 July, over a small hill Changkufeng on the Soviet-Manchukuoan border, near an important Soviet seaport and air base of Vladivostok. The fortified hill, which both Japan and Russia claim, is indicated by the arrow. Russia claims that Changkufeng height is part of Soviet territory, under the terms of an 1886 treaty establishing the frontier with China.

For the fifth time in four years an edict from the Krimlin has removed its viceroy in the Far East. The Far Eastern district is one of the three or four most important provincial posts in Russia. It includes seven provinces, each larger than the usual Soviet province, grouped in one administrative unit because of the fear of Japanese attack.

SIAM

Siam's Navy is being strengthened. Two gunboats were to be delivered by Japan last July; they have a displacement of 1,400 tons, and a speed of 17 knots.

(U. S. Naval Institute Proceedings, July 1938)

SWEDEN

The Foreign Ministers of Finland, Denmark, Norway and Sweden met in Oslo on 5 April to discuss their common defense problems in the event of war. The result was a general agreement to refrain, in the future as in the past, from joining any groups of nations, and to maintain and strengthen their political and economic cooperation with each other.

(U. S. Naval Institute Proceedings, August 1938)

SWITZERLAND

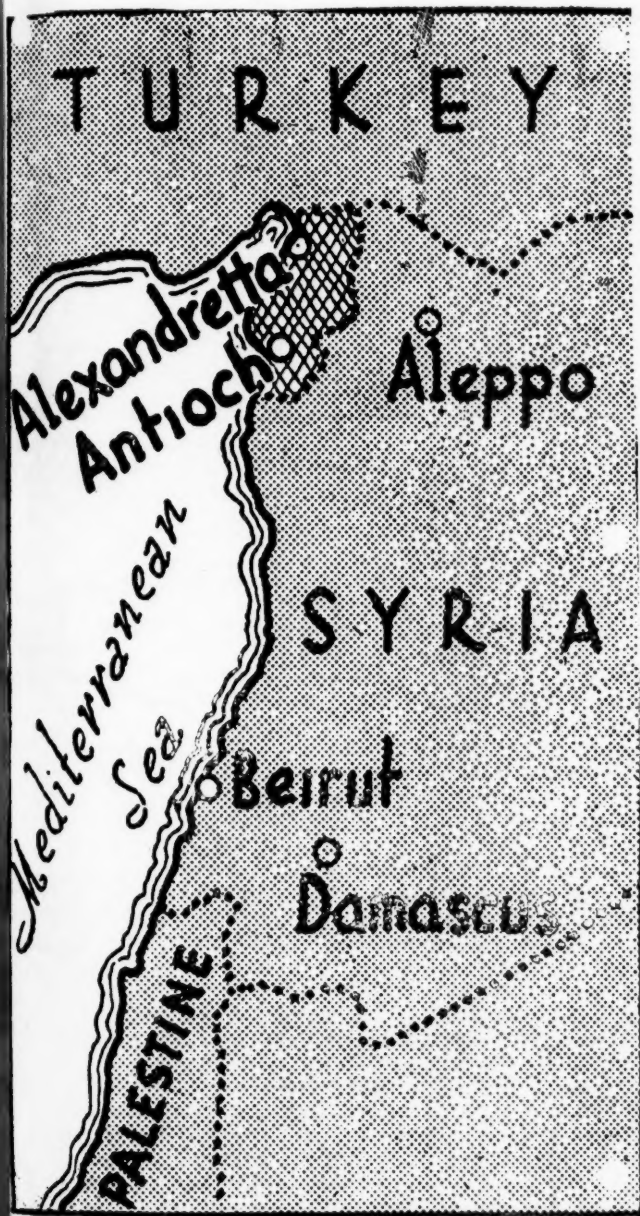
On 25 June, Italy joined Germany in a formal promise to Switzerland to respect her neutrality as long as she maintains her traditional aloofness from international conflicts.

On 14 May, the League of Nations approved Switzerland's request, freeing her from any obligation to participate in sanctions, such as the economic and financial measures taken against Italy because of the Italo-Ethiopian War. When Switzerland joined the League it was with a stipulation that she should not be required to join any military action under the League Covenant.

TURKEY

On 6 July 1938, Great Britain approved a loan to Turkey amounting to \$80,000,000 to be devoted to the purchase of armaments "made in Britain."

Recent dispatches show that Turkey is planning mechanization of her army and extensive purchases of airplanes and submarines.



Alexandretta, outlet of Syria

On 3 July a Franco-Turkish pact was signed, which provides for Franco-Turkish military cooperation in the Alexandretta district with France and Turkey providing armed contingents of equal strength.

The Sanjak of Alexandretta is just a strip fifty miles wide and seventy miles long, with only two towns of any size—Antioch and Alexandretta. But Alexandretta, though a small town, is important because it is the only natural harbor on the east coast of the Mediterranean, except Haifa in Palestine, and the maritime outlet for the trade of the City of Aleppo, and the Syrian hinterland.

Turkey is interested in Alexandretta because the port there is a potential naval base and affords easy access to Turkish territory. With independence approaching Syria, the Turks are said to be anxious to bring Alexandretta under their influence and prevent it from falling into hostile hands.

URUGUAY

The Constitution of Uruguay, approved 19 April 1934, provides that just remuneration and length of working day are to be fixed by law, with special regulations for women and minors. Several decrees have been promulgated at various dates, putting into effect minimum wages for workers in various industries.

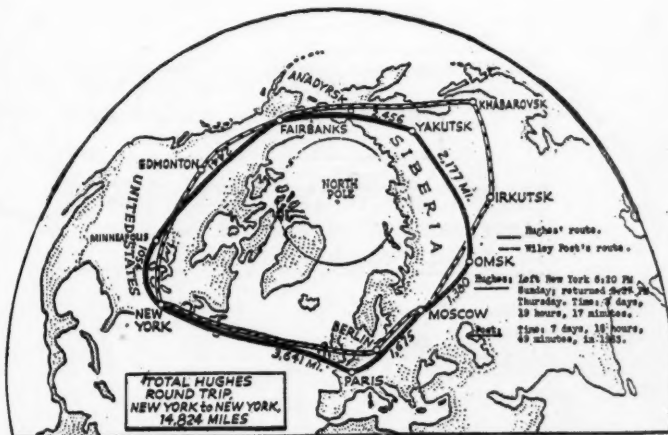
VENEZUELA

On 12 July, Venezuela withdrew from the League of Nations.

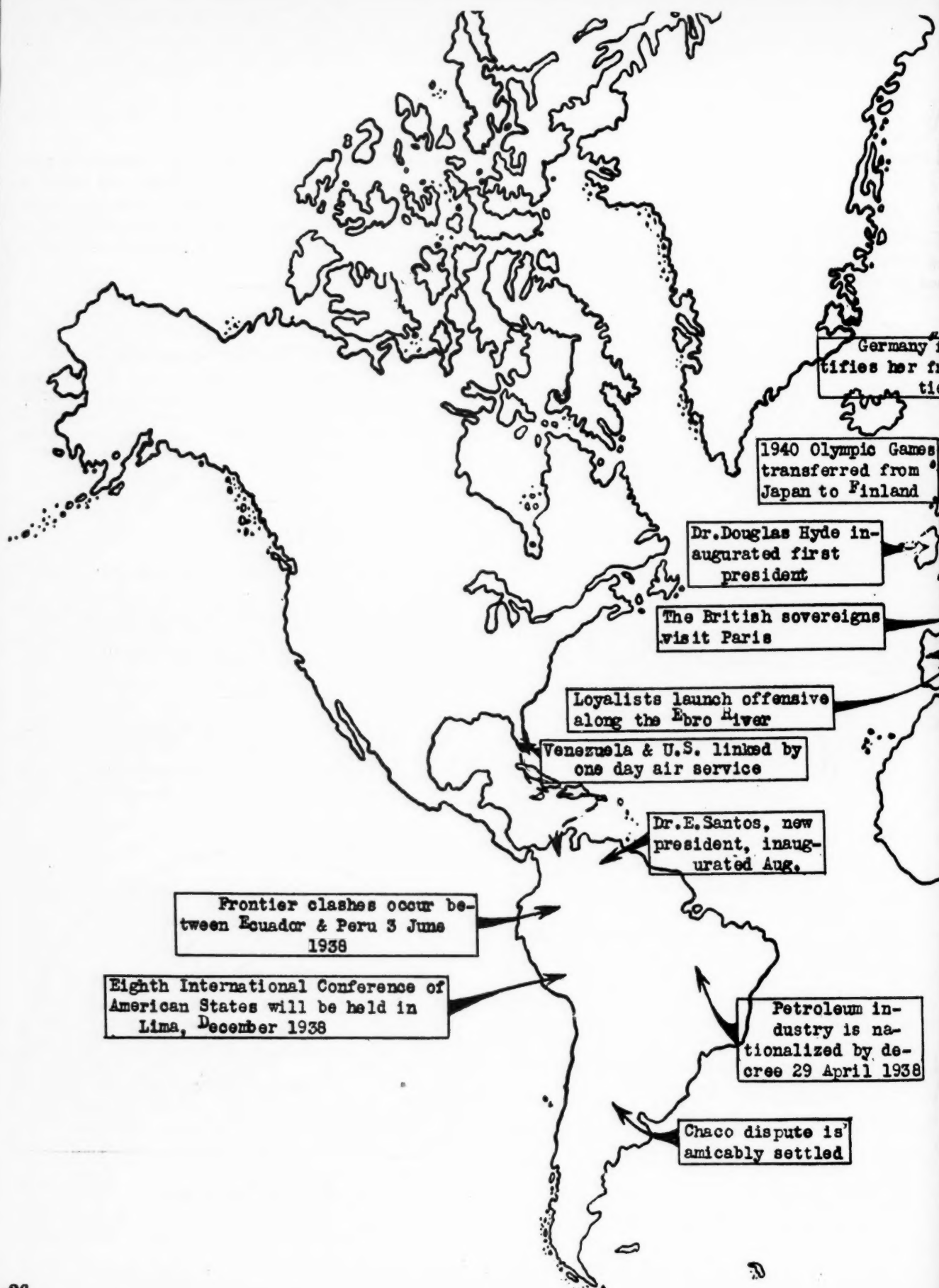
The republics of Latin America are gradually drifting away from Geneva. Of the twenty American republics originally belonging to the League, eight have resigned or are about to do so.

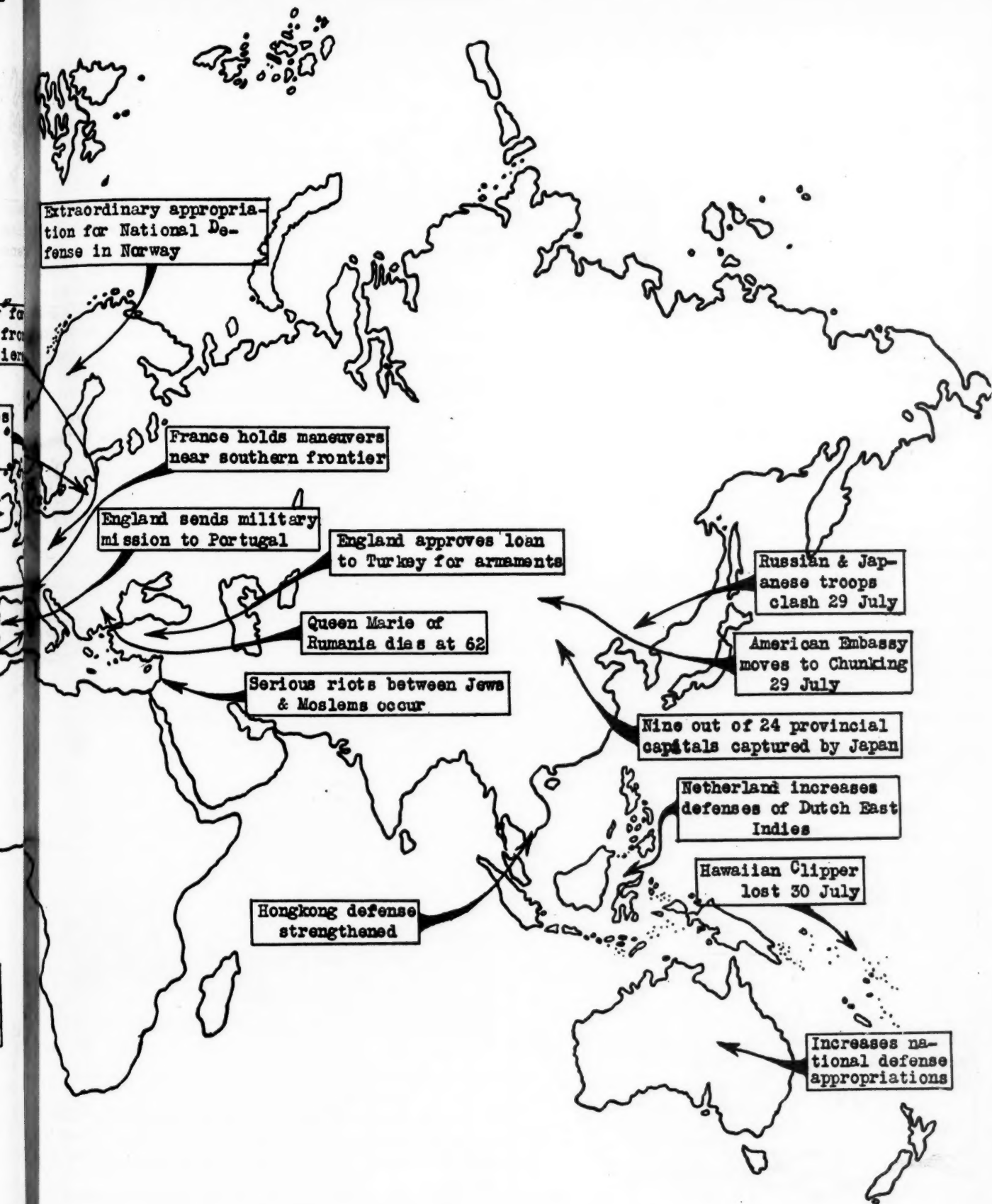
For the first time in history, the United States is linked with Venezuela in a one-day flight.

Intermediate points on the Pan-American airways route include Puerto Rico, Haiti, Cuba and the Dominican Republic.



Around-the-World Flights





The Spanish Civil War



FIGURE 1.—Two Years of War in Spain

When the guns began rumbling in Spain on 18 July 1936, it seemed incredible that the war would last many months, yet it is entering the third year, and both sides are uncompromising and so determined to go to the bitter end that there seems to be nothing that can stop the conflict, except a complete victory for one side or the other.



FIGURE 2.—The Insurgent Drive on Valencia

The Insurgent spring drive to the sea culminated with the capture of Vinaroz on 15 April, thus splitting Government territory in two sections. The Insurgents tried in vain to capture Tortosa, key city on the eastern bank of the Ebro. Franco then decided upon a swift drive with Valencia as the objective, which would not only give him control of the important city, but would, at the same time, cut off Madrid's lifeline and thus the old capital, isolated and starved, would be forced to surrender.

The Insurgent plan for the drive south from the Teruel—Albocacer line, was based upon the converging movements of two army corps to pinch out the salient. On the left, the Army Corps of Galicia (General Aranda) moved down the Mediterranean coast toward Castellón and Sagunto. On the right of the Teruel—Albocacer line, the Army Corps of Castile (General Valera) moved along the axis of the Teruel—Sagunto highway. Forming liaison between the wings of the Insurgent Army were various divisions, among them the First of Navarre under García Valino.

The terrain is very mountainous, with few roads available, a region difficult to traverse even in peace time. The Government forces prepared strong defensive positions taking advantage of the strong terrain.

The drive to Valencia has been bitterly contested, but the Insurgents were rewarded on 13 June with the capture of Castellón, a seaport of considerable value only 35 miles from Valencia. The Government forces are still offering resistance along the Mijares River.



Wide World Photo

A Spanish Loyalist Tank on the front line near Madrid

In the north, Franco's troops bombarded the Loyalist "Lost Division" out of its entrenched position along the French frontier and over 5,000 officers and men fled into France.

Resuming a drive on a front long dormant in the southwest, the Insurgent forces captured Blasquez and the fertile region surrounding it. (Figure 3) Then suddenly the



FIGURE 3.—Government Offensive near Gandesa

Government forces, who had been yielding the stubbornly held ground on the south salient of the Insurgent Salient, hurled an unexpected thrust into the north flank of that salient. The Government advance swept forward a dozen miles and reached the strategic city of Gandesa (Figure 3) taken by the Insurgents last spring after some of the bloodiest fighting of the war. The Government forces, however, were shortly after thrown back from the gates of Gandesa. The Government offensive has relieved Insurgent pressure in the south, temporarily at least, and seems to indicate that the Government forces are still capable of stubborn and effective resistance, that their morale is still high, and that the insurgents are not likely to win the war before next spring. Earlier in the war the push at Brunete paralyzed the activity of the Insurgent Army of the North which had just taken Bilbao. The Government drive on Belchite forced a month's inaction between the conquest of Santander and Asturias.

What effect will the Gandesa offensive have in future operations is a matter of conjecture.

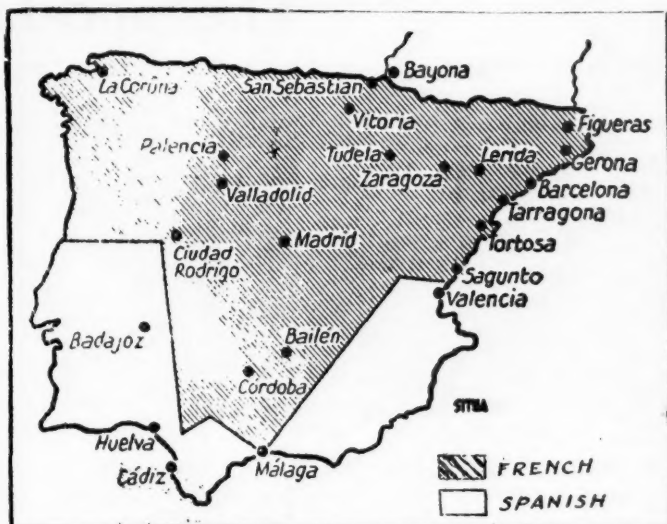


FIGURE 4.—Spanish Territory occupied by the French in 1811

Franco has an immense superiority in the air, a far more ample supply of guns and munitions than his enemies. Moreover, in order to placate Italy, France has officially closed the Pyrenean frontier across which large war supplies of all kinds had been passing to Government Spain. That frontier has yet to become watertight and Barcelona still receives some munitions from other sources, notably Mexico, the Balkan countries and from private sources in Europe, but this is not sufficient to overcome the handicap to which the Government forces are doomed for lack of equipment in comparison with the Insurgents, whose superiority in guns, tanks, airplanes and munitions increases daily.

Italy has already lost more men in this war than she did in the Ethiopian Conquest, and in addition, the conflict has proved to be a drain on Italian finances and war materials. For this reason, Mussolini would like to see Franco win as soon as possible.

A Franco victory has been repeatedly deferred, but few would now question its inevitability in the end. Whether it can be accomplished this year or next spring, however, is not for us to predict. The future alone can reveal the duration of this struggle, where we find not only armed forces pitted against one another, but the indomitable will and do-or-die spirit of two irreconcilable factions.

"The bravery of the Spanish soldier is the heritage of a race ready to die for the defense of its principles. The heroism of the Alcazar of Toledo and the epic of Madrid had its inspiration in the memories of a glorious past."

—Military Commentator, *Kansas City Star*.

The Sino-Japanese War

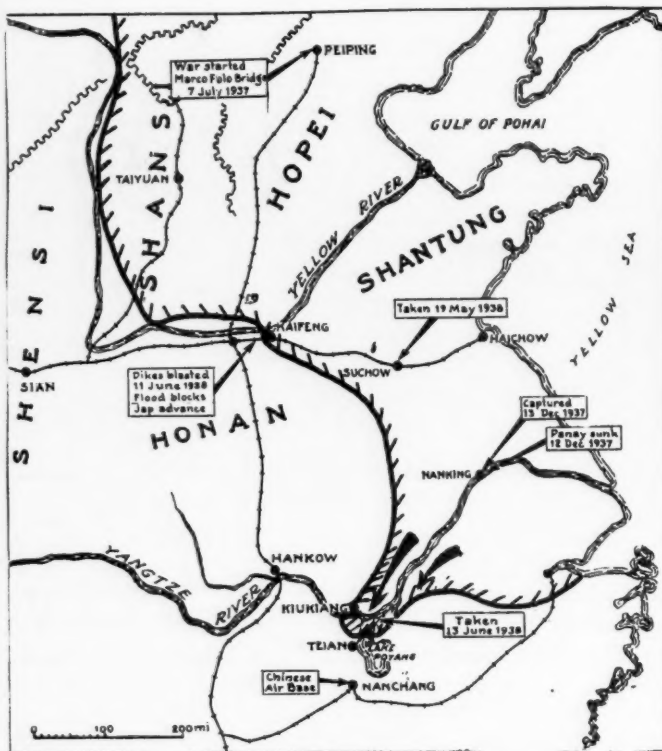


FIGURE 1.—General Situation as of August 25, 1918

On 19 May, the Japanese captured Suchow, strategic railway junction of the Lunghai and the Tientsin-Pukow railways. It took a powerful, equipped army of over 200,000 men, supported by airplanes and tanks several months to drive the Chinese forces to the West.

Sanguinary battles along the Lunghai railway followed the fall of Suchow, particularly at Lanfeng, 50 miles to the West, where a Chinese counteroffensive succeeded in surrounding Japan's crack 15th Division, commanded by General Doihara, the "Lawrence of Manchuria." This force was only saved from utter destruction through timely arrival of reinforcements.

The Japanese successes in the Lunghai Corridor now seemed to open another phase of the war, the capture of Hankow, official seat of the Chinese National Government after the fall of Nanking. The Japanese expected to capture Hankow by a two-fold maneuver. By land, following the Peiping-Hankow railway combined with an expedition up the Yangtze River, where the Japanese Navy had concentrated a powerful fleet. An unforeseen factor, however, wrecked these carefully prepared plans.

It is a rare year for China not to witness a flood, either of the Yellow or the Yangtze River. Some of the floods have been great catastrophes, notably that of 1855. After several years of work, under the supervision of foreign engineers, the Chinese had built dykes and had succeeded in keeping the Yellow River along its normal course.

On 19 June, the Japanese Army was driving furiously for the possession of Chengchow, important junction city



Wide World Photo

Japanese soldiers in the Yellow River overflow

where the Peiping-Hankow railroad crosses the Lunghai. The fall of this strategic junction seemed imminent. The Chinese blasted the dykes between Kingshui, just north of Chengchow and Kaifeng 50 miles to the East. The Yellow River swirling over hundreds of square miles, blocked Japanese troops before Chengchow and forced them back as far as Kaifeng, destroying enormous Japanese war material and causing many losses in property and lives. The river rolled relentlessly, leaving starvation and ruin in its wake; but the loss was not all China's, for the Japanese armies bogged down, wholly bested by the high water. The "China's Sorrow," as the Yellow River is nicknamed, became "China's Savior," and the friendly river dragons furnished the most effective natural defense in China's moment of great national peril. Flood strategy succeeded where men and guns had failed.

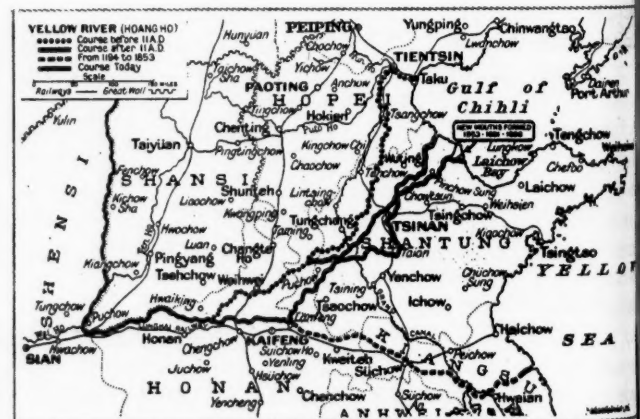


FIGURE 2.—Yellow River Courses at Various Times of History

The Yellow River, 2,700 miles long, rises near the Tibetan Border, and has been a menace and a blessing to China for thousands of years. Its name comes from the

yellow mud which it carries, at times, more than 40 per cent by weight. This river has a more spectacular history than any other in the world and has wandered from its appointed way (Figure 2) many times. Its vagaries in the summer, which is the time of high water, are unpredictable.

Emperor Wu, in 2297 B.C., attempted to tame it by diverting it into several parallel channels. At one time it flowed north to Tientsin and entered the sea at Taku, and it maintained that course for a number of centuries. After 11 A.D. and until 1194, it flowed northwest to Tsinan, emptying into Laichow Bay; later the river changed its course and flowed south through Kiangsu province to the Yellow Sea. At other times it has shifted between these two points, occasionally emptying into the Yangtze near Nanking, the course which it is following at this time.

The present flood may exceed that of 1935 when 3,000 square miles were inundated, \$75,000,000 worth of property destroyed and 4,000,000 made homeless.

YANGTZE CAMPAIGN

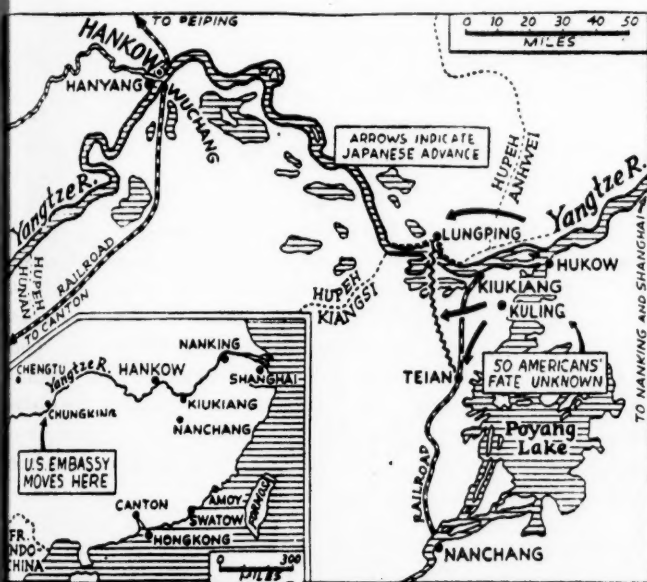


FIGURE 3.—The Yangtze River Drive

Having been stopped by the "River of Sorrows" in the North, where the great flood forestalled the Hankow drive, the Japanese General Staff immediately decided to push the Yangtze campaign vigorously. Nanking was quickly captured; but the Japanese have encountered stiff resistance thereafter. However, they have succeeded in securing Kiukiang, great pottery center, which held them for a month, and gunboats have been sent through the mouth of Lake Poyang. They continue to press up the Yangtze, but the main drive seems directed along the easier route down Lake Poyang to Nanchang, greatest Chinese air base. Nanchang's fall and the cutting of the Canton-Hankow railway would doom Hankow. The Chinese Foreign Office with its archives and most foreign embassies, including the American, have already moved to Chungking, 500 miles up the Yangtze. Hankow cannot hold out indefinitely. The Chinese are al-



Wide World Photo.

Japanese Infantry near Kiukiang on the Yangtze River

ready making arrangements for supply of munitions through French Indo-China to offset the loss of the supply line through Hongkong and Canton. The warlike clashes with Soviet Russia have already caused withdrawal of troops from Northern China to Manchukuo, but so far Japan's drive down Lake Poyang has shown no signs of slackening.

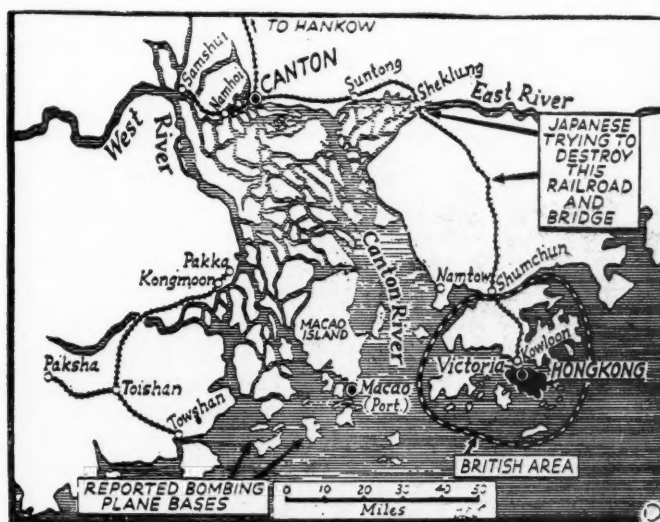


FIGURE 4.—The Hongkong-Canton Railway, which Japanese bombers have failed to destroy

Japan continues its air raids against Canton in an effort to break up the railroad to Hankow. In spite of these air raids the Kowloon-Canton Railway, which is the main supply line of the Chinese armies, continues running and rendering effective service.

July 7, 1938, marked the first anniversary of this war which started as a clash between Japanese and Chinese troops at the Marco Polo bridge, outside of Peiping, and has now become the greatest armed conflict which Asia has witnessed in 32 years.

More lives have been lost, more property has been destroyed and more money has been spent to keep the embattled armies going than was the case in the Russo-Japanese War.

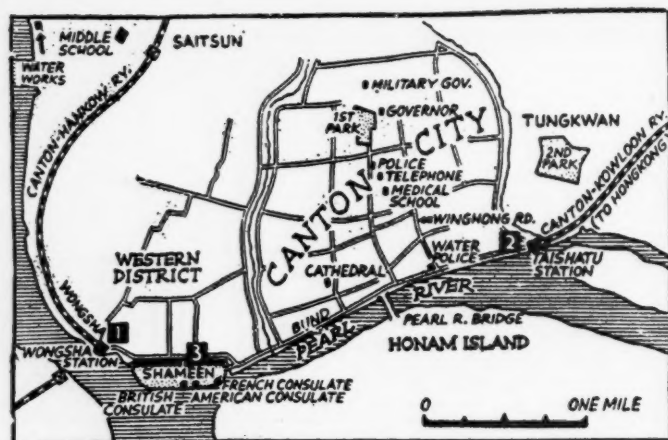


FIGURE 5.—City of Canton, which for months has been subjected to Japanese air raids

This war has now swept 400,000 square miles, nine provincial capitals out of twenty-four have been captured by the invaders; the loss of Chinese lives, according to Japanese estimates, which probably are too high, is about 1,300,000 lives. It is actually impossible to estimate the destruction of property and wealth in China. Three-fourths of the ships of China's navy have been captured or destroyed and the Chinese government has more refugees than it can aid. The losses to China's railway system have been stagger-



Wide World Photo.

Japanese combat vehicles in North China

ing. Yet in spite of these appalling losses, Japan has failed to bring China to its knees.

In January of this year, Cabinet members were exhorting the people to prepare for a three or four-year war, and now, depressed by the setback which the Yellow River flood gave the invader's army in Honan, War Minister Seishiro Itagaki declares that, in his opinion, Japan must be prepared to fight at least ten years. Japan is maintaining an army of over 1,000,000 men in China and the war is costing her approximately \$5,000,000 a day. The Chinese game now seems to be to make the Japanese pay an exorbitant price that may cause a collapse and every day's delay in the Japanese invasion is seen as a measure of victory for China by increasing the already staggering cost of the war.

A new complication has come up. The armed clash between Japanese and Russian troops may prove to be the first battle of a major war. It is possible that the trouble may be localized and settled by diplomatic steps, but there are observers who argue that the Soviet Union believes that the moment has arrived for the following reasons:

1. Russia believes that Japan is near financial exhaustion and a "now or never" moment has arrived to fight a war and forestall attack by Japan in the future.
2. Russia fears that China may collapse should the Japanese capture Hankow and sever the Canton-Hankow railway, which is the main Chinese munitions artery.
3. Russia may believe that the Siberian situation cannot be kept within the bounds of a miniature war, without serious danger to the Soviet Union.

Other observers believe that the border trouble is merely a Russian effort to prevent troop movements from Manchukuo to strengthen the Yangtze Valley Campaign.

It has been predicted that Japan will make peace overtures to China after capturing Hankow and that she expects to end the devastating war in the very near future.

Fighting almost with bare hands against a heavily armed adversary, there is no sign of surrender yet by the Chinese government and people. Encouraged by the Russians, Chinese resistance may stiffen.

In 1812 the Russians deliberately burned Moscow in order to minimize the French capture of their capital and embarrass the invader. The subsequent collapse of Napoleon's empire has been attributed by historians to that heroic act. The destruction of the Yellow River dykes may prove to be another act of self-sacrifice that may also shatter the dreams of another great empire.

"Japan has modern weapons, China 4,000 years of history during which she has been conquered but never absorbed."

—From *China Fights for her Life*, Ekins and Wright.

Foreign Military Digests

Digests of important articles from foreign military periodicals; the remaining articles for each magazine are listed in Catalog of Selected Periodical Articles.

TANK ATTACK AGAINST ANTITANK GUNS

[Condensed from the Russian, "Avtobronyevy tankovy Zhurnal," 11, 1937.]

ANTITANK GUNS IN DEFENSE

The advent on the field of battle of a new offensive arm—the tank—has called into being also a new means of defense: a special type of antitank gun.

At the present time the armies of all countries are sufficiently familiar both with tanks and with the means of combatting them.

In the opinion of Eimannsberger, to each kilometer of front there must be 8 guns, or to the division 64 guns, to which are added 18 guns at the disposition of the division commander; a total of 82 guns for the 8-kilometer defense front of the division, that is, 10 guns to each kilometer of front.

Such a saturation of the defense with antitank guns is indicative of the fact that the attacking tanks are being presented with a new situation.

During the last few years, a change has occurred also in the qualitative state of the antitank arms.

The 50-mm antitank gun of the Rheinmetall factory, Model 1929, has a muzzle velocity of 2000 f.s., a maximum range of 6,500 yards, a practical rate of fire of 15 to 20 shots per minute, a weight of projectile of 1.75 kilograms. The projectile is thus enabled to pierce armor plating of a thickness up to 30-mm or 40-mm at a distance of 1000 yards.

A 37-mm gun with an initial velocity of 800 yards, maximum range of 7,000 yards and projectile weight of 0.66 kilograms has an armor-piercing strength, at a distance of 1000 yards, up to 20-mm or 30-mm. Lessening of the distance by half increases the penetrative power of the projectile by about one-fourth.

According to the French *Revue d'Artillerie* there has been introduced into the armament of the English infantry an antitank rifle.

All the accepted methods of tank attack upon antitank guns—"pincers," "front flank"—which once were contested, retain their importance in a favorable situation; that is, in case of low saturation of the defense front with antitank guns and in case the tank units act in reconnaissance on a broad front. The degree of saturation with antitank guns, however, which prevails at the present time, demands other methods of combatting them, a different tactic. That requires a new effort in the field of military and scientific thought.

STRENGTH OF THE TANK AND OF THE ANTITANK GUN

Let us compare the strength of the individual light tank with that of the antitank gun. Conceiving the situation to

be one in which the tank is approaching an antitank gun which has been set up on a firing position, there is the following to be said: the antitank gun, thanks to its stable position and to concealment on the locality, is less conspicuous than the tank moving in the open and readily observable. Because of that fact, the initiative will almost always remain on the side of the antitank gun. The antitank gun is the first to open fire, from a distance of 500 to 1,000 yards, and has the possibility of making a few aimed shots before the opening of fire from the tank. With those shots, the antitank gun may put the tank out of commission. If it does not, then the tank will begin firing.

The fire from the tank is fire from a machine in motion, upon a poorly observable target on an unstudied locality, and for this reason its accuracy will be approximately half that of the fire of the antitank gun. However, since the tank has armor and, in addition to the gun has also a machine gun, it is more correct to consider that the vulnerability of the tank is much less than that of the antitank gun, and its fire power much greater. But the initiative, as before, will remain on the side of the antitank gun. All that is indicative of a certain preponderance in the fire power of the antitank gun over that of individual tanks.

THE STRENGTH OF ATTACKING TANKS

What is true of the attacking tank and of the defending antitank gun taken separately, can not be extended to the massive and skillfully organized tank attack.

The rifle battalion engaged in supporting the tank company will conduct its offensive in a zone 600 to 800 meters wide. Assuming that the adversary is saturated with antitank guns in accordance with Eimannsberger's calculations, the company will meet at the forward area of such zone 5 to 6 antitank guns. At some depth it will meet with entire batteries of regimental or battalion artillery. Consequently, against each 2 to 3 tanks there may appear one antitank gun. We have already seen above that when 2 to 5 tanks go to meet one modern antitank gun, the final outcome of their collision can not be predicted.

In that case the situation for the tank is not brilliant: to attack is possible, but the risk is very high, and the losses will without doubt be great. How can those losses be avoided, and what is the best method for attacking the front of the antitank guns? The best way out of the difficulty must be sought in establishing a definite superiority of forces in the decisive direction. That can be attained by closing up the combat orders in the direction of the main blow.

Against such a solution the following objections may be raised: There will take part in the battle not only those antitank guns which will appear in front of the tanks, but also those which will be on the flanks of the attacking company, so that the number of antitank guns must still be in-

creased by 4 or 5. That is true as regards the single company acting separately. But even for such a company, if it operates with rather small combat intervals, certain advantages are created, since the number of antitank guns acting against it will be considerably less. We have to take into consideration, mainly, the massive tank attack, since "the employment of tanks in the offensive must be massive" (FR-36, Art. 7). Consequently, the tank company will, as a rule, not attack singly; the attack will be participated in also by other companies, acting at right and left.

CONSIDERATIONS ON THE TANK ATTACK

The advantages of the attacking tanks over the antitank guns repulsing their attack are embraced in the advantages of the offense over the defense. The adversary attacks where he desires and can create a superiority of forces in the decisive direction. The party on the defense wards off the attack not where he desires, but where the adversary attacks; that is, his actions will depend on the decision of the assailant. Because of that fact, he must be ready everywhere to repulse the adversary. That circumstance has always led and will lead to dispersion of forces on the part of the defense and to advantages on the part of the offensive.

And those advantages must be put to use for proper organization of the tank attack. Whatever may be the saturation of the defense with antitank guns, it is always possible to create in the decisive direction a preponderance of tanks attacking in cooperation with the artillery. If the enemy has established one antitank gun for each 100 yards (that is a high saturation, and to create it is not such a simple matter as may appear at first glance), the attacker may have in an offensive zone of 100 yards 4 to 6 or more tanks. In that case, even not counting the possibility of creating the same preponderance in artillery, the advantages of the fighting are clearly on the side of the tanks. And therein lies the superiority of the attacking tanks over the antitank guns. That requires of the organizer of the offensive an excellent military mind and the capacity to employ tank tactics in conformity with the peculiarities of the situation.

In the organization of the tank attack, the more the adversary's attention is distracted from the direction of the main blow, the fewer will be the means of antitank defense which he will have along that direction and the more successful will be the tank attack. For this reason the preparation of the attack of tanks and infantry must always be carefully concealed in the decisive direction by the employment of camouflage and by feigned activities in secondary directions. The suddenness of the attack always has a stunning effect.

In conditions of limited observation (in twilight, in pre-dawn fog) the fire of artillery and antitank guns is rendered extremely difficult, and it is precisely those conditions which turn out to be highly favorable to the activities of the attacking tanks. That is proved also by the experience of the World War. In all cases a light smoke curtain in front of the attacking tanks is helpful.

The directions selected for the tank attack must have no obstacles which the tanks are incapable of overcoming. These considerations place highly responsible missions upon tank reconnaissance. This reconnaissance must establish the character and strength of the antitank guns and obstacles

and also the peculiarities of the tank movement on the various sectors.

SUPPRESSION OF THE ANTITANK GUNS

In the case of a continuous front of antitank guns, with a density of one gun to each 100 yards the actions of rather small tank groups (of 3 to 5 tanks) not united by a general command are unfavorable and are not likely to turn out successfully. Consequently, it is not advisable to assign light tanks by platoons to the infantry companies. It is much better, against a continuous front of antitank guns, to operate with a stronger, with a whole combat order of tank companies and battalions. The combat order of a tank company or battalion is capable of combatting even a continuous front of antitank guns.

Tank platoons may properly be assigned to infantry companies in cases in which there are vanguard tank echelons consisting of medium or heavy tanks and whose mission it is to suppress the antitank guns.

In the case of a continuous front, the antitank guns are suppressed by the more powerful fire of the attacking tanks and supporting artillery. The tanks attack in the adopted combat order under cover of the fire of their artillery and conduct fire not only upon the antitank guns which have been discerned but also upon suspicious places of every sort where such guns might be concealed. That deprives the antitank guns of the advantages of the initiative and makes it more difficult for them to make use of aimed fire. The tank maneuver with a view to creating a more favorable situation for the attack. Thus, for example, when they have suppressed the antitank guns along one direction, they endeavor to debouch into the flank of other guns, but they always act in full combat order.

THE CROSSING OF THE ANDES IN 1817

["Der Andenübergang 'El Paso de Los Andes' im Jahre 1817." By General Knaus. Condensed from *Militärwissenschaftliche Mitteilungen*, December 1937.]

BY CAPTAIN H. N. HARTNESS, Infantry

In 1808 the French occupied the greater part of the Spanish peninsula, but scarcely any member of the Spanish colonies considered this occurrence as an opportunity to scuttle Spanish domination in the Spanish American colonies. All important positions in these dependencies were occupied by native born Spaniards. Even the American born Spaniards were relegated to positions of secondary importance, unless they had been educated and trained in Spain. It was only in the minds of a few broad vision men that the ideas of the French revolution found reception. On 25 May 1810, a Junta began its discussions in Buenos Aires, then a city of 70,000 and capital of the crown colony of Rio de la Plata (Argentina). In spite of frequent personal changes, this Junta exhibited a heroic activity and social quality, greatly instrumental in achieving and maintaining freedom for Argentina.

The seat of Spain's main power lay in the crown colony of Peru. Only by destruction of Spanish mastery in that land did it appear possible to achieve independence for



FIGURE 1. San Martín's Operations in 1814.

by way of London, reached Buenos Aires on 9 March 1812. When he offered his services to the government they were accepted and he was commissioned to organize a cavalry unit according to European pattern. San Martín first formed the squadron "Granaderos a Caballo." This squadron proved to be an excellent school, both for developing the highest love of country and in promulgating the best military virtues (today the regiment "Granaderos a Caballo" is a distinguished unit, which performs daily its guard service in uniforms such as it wore when first organized).

In the beginning of 1813, San Martín was able to demonstrate his excellent leadership capabilities when he was entrusted with the protection of the right bank of the Parana, northwest of Buenos Aires. A Spanish flotilla ascended the Parana River; San Martín followed it with his mounted men. Early on the morning of 3 February, 250 Spaniards, with 2 cannon, landed near the cloister of San Lorenzo and began to advance against this place. San Martín struck this force from either side of the cloister with such surprise and such strength that it was defeated in a short time and was forced to retreat and reembark under the protection of the guns of the flotilla. Although of little importance in itself, this battle gained for the Argentinians freedom of traffic and commerce on both the Parana and Uruguay Rivers, since the Royalists did not again dare to send expeditions up those streams.

In February 1814, San Martín was named commander of all troops in northwest Argentina. He recognized immediately that the troops located there were not suited for operations over the long and difficult routes by way of Alto Peru (Bolivia) to move against and destroy the center of Spanish might in Lima. In May 1814, San Martín renounced, based on considerations of health, a plan whereby these difficult routes would have to be used, and recommended that the province of Cuyo (today the provinces of Mendoza, San Juan, and San Lui) be used as a basis of operations over another route against the Spaniards in Peru.

THE ROUTE OVER THE ANDES TO CHILE AND PERU

According to San Martín's point of view it was unnecessary to sacrifice man and money for an undertaking by way of Alto Peru; in this area the defense should be entrusted to the brave Gauchos, those rash and hard riders of the province of Salta, and to several tried squadrons. In the area around Mendoza he desired to form a small, well disciplined army, which, in cooperation with the Chileans, should prepare an end to the Spanish mastery, in order later to break the center of Spanish authority in Peru.

When San Martín was placed at the head of the government of the province of Cuyo in September 1814, he found such a small force (985 men with insufficient equipment) that it was impossible to begin the intended operations at once. His first job was to create the necessary tool and the necessary means. In the encampment at Plumerillo, 4½ miles northeast of the city of Mendoza (Figure 2) he began his difficult task, the formation of his army, the instruction of its components and the development of its spirit and morale. It is interesting to note that he laid a special emphasis on target practice, on field firing, on close combat and upon the power of decision by the lower commanders.

other areas. Therefore the Junta in Buenos Aires dispatched shortly after 25 May 1810 an expedition to Alto Peru (today Bolivia), and other expeditions were ordered against the Spanish in Paraguay and Montevideo. On 7 November 1810 the Argentinians defeated the Spanish near Suipacha and freed the most part of Alto Peru (Bolivia). These operations were conducted, beginning at Buenos Aires and extending to Lake Titicaca, over a distance of about 1,500 miles, the last 600 of which were at an elevation of approximately 13,000 feet. An armistice which had been signed, was broken by the Spaniards and the Argentinian Army was defeated and scattered as a result of a sudden surprise attack. In consequence, Alto Peru (Bolivia) was lost and the remainder of the Argentine troops retreated to Salta and Tucuman (about 800 miles). On 24 September 1812 at Tucuman, and on 20 February 1813 at Salta, the Argentinians, under General Belgrano, defeated the Spaniards, under General Tristan. The Argentine Army again advanced into Alto Peru, but in two battles east of Lago Poopo was decisively defeated on 1 October and 14 November 1813. Belgrano withdrew again to Tucuman and was replaced by General San Martín.

Don Jose San Martín was born 25 February 1778 in Yapeju (today San Martín) in the province of Corrientes. His parents were Spanish. He attended several schools in Buenos Aires and in 1788 entered a seminary in Madrid. At the age of 11 he became a cadet in the Infantry Regiment Murcia and at the age of 15 was commissioned a sub-lieutenant. With audacity and great bravery he took part in campaigns in Morocco, Portugal, Spain, and in a sea-under-taking against England. In 1811, at the age of 33, he became lieutenant colonel. In order to be able to participate in the independence of his home land he left Spain, and traveling

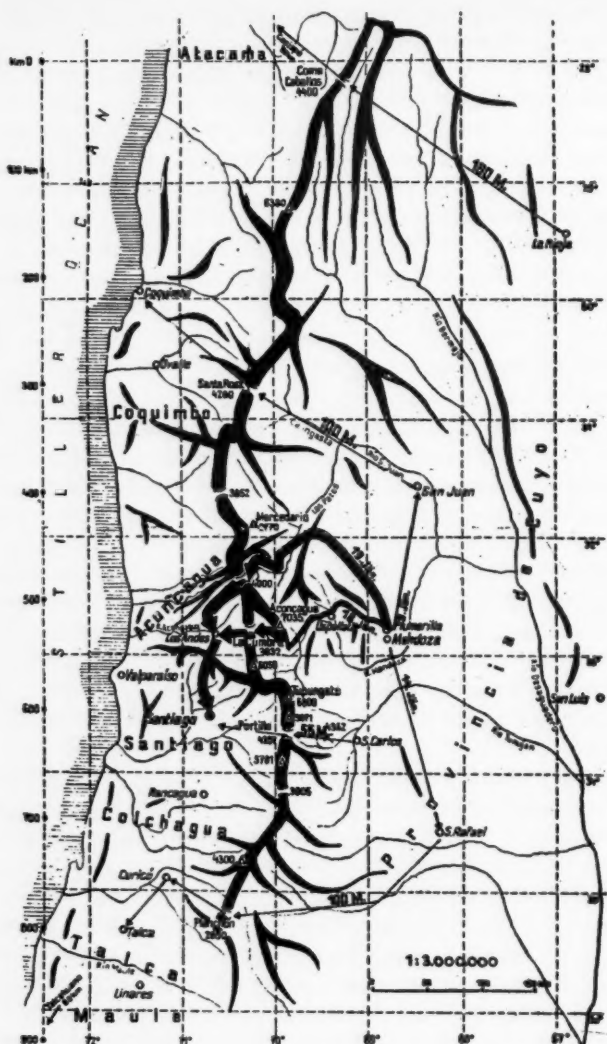


FIGURE 2. The Route over the Andes.

For the execution of his plans San Martín required 4,000 well armed, suitably equipped, disciplined soldiers, accustomed to hard field service conditions. As the basis of his force San Martín had the first and second squadrons of his "Granaderos a Caballo" and the Chilean troops of General O'Higgins. To these were added later 1,200 volunteers, the third and fourth squadrons of "Granaderos a Caballo" and some artillery. In spite of all efforts in September 1816, the army numbered but 2,300 effectives instead of the necessary 4,000. As a result of the freedom of slaves, 710 soldiers (black and mulatto) were enrolled and from Chile several immigrant detachments were formed, with the result that at the beginning of 1817 the Andes Army had reached a total of 4,030 men, including all staffs.

As auxiliaries there were employed:

- 1,200 militia for the transport of artillery and the security of the line of supply.
- 120 miners from Mendoza for work on roads.
- A detachment of mountain guides.
- Masters for the pack animals.

The four infantry battalions (Nos. 1, 7, 8, 11) each consisted of four infantry companies, a grenadier company, and

a reconnaissance company. The regiment, "Granaderos a Caballo," was composed of four combat squadrons and accompanying squadron for the staff. The artillery battalion had 16 to 19 cannons, some 4-inch, some 6-inch. The staff consisted of 57 men. The ammunition allotment consisted of 270 rounds per man (all told, 900,000) and 10 rounds per cannon (all told, 2,520).

When the two columns marched from Mendoza the were all told 10,791 horses and mules; 1,600 saddle horses for the staffs and the cavalry; 7,269 saddle mules and 1,300 pack mules. In addition, 1,020 riding and pack animals accompanied detachments north and south of the main column. For each man there were about 3 horses or mules.

During the march the cavalry and the staffs were allowed to ride only the mules in order to save the horses for use in combat. The infantry, the artillery personnel, and other personnel were mounted on mules in order to conserve their strength and to help in warding off a peculiar mountain sickness common to the Andes.

The tubes of the cannon were carefully wrapped in wool and sewed into a cover of horsehide. On steep slopes these were brought forward by means of lassoes attached to the pack saddles of two mules, one following the other. Four hundred militia soldiers assisted in this means of transportation.

The food taken along was as follows: about 85,000 pounds of dried, salt meat, 700 cattle on the hoof, 700 large round loaves of corn meal zwieback, dry cheese, a large supply of wine and brandy as well as a goodly supply of garbanzo beans. An advanced supply base of food and forage, protected by militia, was established on the route of the north column between Plumerillo and Los Manantiales.

In order to provide durable uniforms for the difficult undertaking, a cloth manufactory was built. The Marquis Luis Bethan established an arms factory. Provision was made for the manufacture of powder.

San Martín was untiring in his efforts to train his men to raise to the utmost their morale, to procure the necessary equipment and arms, to establish an effective communications and spy system, to secure thorough terrain reconnaissance reports. He had strong support from the government of Buenos Aires and from the population of the provinces of Cuyo. The women contributed their jewelry to the treasury chest. British merchants in Buenos Aires, to whose interest it was to see the overthrow of Spanish domination, provided large amounts of supplies on credit.

The royal Spanish army in Chile, under the aged president, General Don Francisco Marco del Pont, numbered 7,600 regulars and 800 militia. In every unit were Spanish soldiers, yet the mass consisted of Chileans.

Notwithstanding the numerical superiority of the Chilean Army, San Martín decided to carry through the expedition against Chile. As a result of his long years in the Mendoza area he had a thorough knowledge of the terrain, road and weather conditions of the area as well as the possibility of assistance to his operation by an uprising of the natives of Chile.

Beginning 16 September 1816, San Martín undertook negotiations with the Chief of the Pehuenche Indians in San Carlos (60 miles south of Mendoza) with the ostensible intention of securing permission to advance through the

itory of these independent Indians, in order to strike at the Spaniards by way of the "El Planchon" pass. During the revolution the Pehuenches maintained a neutrality although the Spaniards endeavored, by all kinds of presents, to secure their alliance against the Argentinians and Chileans. During the discussions San Martin proposed that the Indians provide supplies for his army, for which he would pay well, and enjoined the strictest secrecy from the Indian Chief Nanounan. As one thoroughly familiar with the Indian manner, he knew the Indians would transmit all information at once to the Spaniards. That actually happened.

Marco del Pont, the Spanish Commander in Chile, soon despatched strong forces from Santiago to the vicinity of Talca, 150 miles south of Santiago. In order to further his intentions and delude the Spaniards, San Martin sent a force to the Planchon pass and caused rumors to be circulated that his main army would soon march on the pass. About the middle of October 1816, San Martin completed negotiations for the uprising of the Chileans in the provinces of Colchagua and Maule. This uprising detached some 2,000 Spanish troops away from the main operations and toward itself.

For an operation against Chile, 1,200 miles long and 120 miles wide, considering geographic, climatic and civilization conditions, only the fertile and valuable areas in and around Santiago were to be considered as the theater of operations. North Chile contained many saltpeter wastes and arid mountains which offered little possibility of supply for an army, though small. The south portion (Patagonia), scarcely settled, was out of the question. South of the province of Maule there lived the Arancano Indians, an independent, extraordinarily warlike race, which were not pacified until 1870. In consequence, the operations zone was limited to that area lying between the 27th and 37th meridians. In this area, some 675 miles wide, the terrain has the following characteristics:

Between the shores of the Pacific and the Desaguadero River (flowing from north to south and in the south called the Colorado) lie the Andes, which reach their highest elevation in the Mendoza—Santiago area. The mass Aconcagua reaches a height of 23,000 feet; to the south the snow-topped Tupungato 22,000 feet, north of Aconcagua the Mercedario 21,000 feet. In this area the passes average an elevation of 13,000 feet. In the various charts and maps the elevations vary. The snow line averages an elevation of 15,000 to 16,000 feet. From this central mountain range a number of rivers flow west to the Pacific, and flow east to the Desaguadero. Between the main mountain range and the Desaguadero lie the ramified lesser ranges and east of these a wide, generally waste, fairly level area. Only along the watercourses were to be found fruitful and cultivated areas. Not only do we find lesser east and west ranges between the Andes (main range) and the Pacific, but a coastal range, generally parallel to the coast, which rises to some 6,500 feet, cut at intervals by the streams flowing into the Pacific. Between this coastal range and the Andes lay a long valley, from 6 to 25 miles in width and with an elevation of 600 to 2,500 feet, copiously watered, uncommonly fruitful, the granary of Chile.

The most important passes in the area of operations were the following:

- Come Caballos (14,400 feet), from La Rioja to Copiapo.
- Santa Rosa (14,000 feet), from San Juan to Coquimbo.
- Los Patos (13,000 feet), from San Juan or Mendoza north of Aconcagua to Los Andes.
- La Cumbre (12,500 feet), from Mendoza, by way of Uspallata south of Aconcagua, to Los Andes.
- El Portillo (13,800 feet), from San Carlos to Santiago.
- El Planchon (9,400 feet), from San Rafael to Talca (150 miles south of Santiago).

In addition there are numerous other routes, which, however, are often very narrow, very steep, very difficult to cross, and in general unusable for military operations.

Of the six main routes named above, the two northern (a) and (b) and the southern (f) lose considerable importance because of their distance from the Mendoza—Santiago axis of operations.

Only on a few of the passes were small shelters, accommodating a few persons, to be found. In the mountain valleys were pasture lands. Water was adequate in the Andes (main range), in super abundance on the west slopes and in Chile, but found only in the valleys to the east. An army crossing the Andes will find pasturage and water in sufficient quantities, but all other supplies must be guaranteed along a line of communications.

In addition to the difficulties of the poor roads and steep, stony ascents and descents, a force must contend with the adversities of the weather. In fact, a crossing can be considered only during the summer months (December to March). Even during this period, at a height of 12,000 feet, sudden snowstorms and blizzards can create havoc and destruction.

In many sections of the Andes, puna (mountain sickness) affects many travelers. Not only is it very disagreeable but it often results in death. Common indications are difficult breathing, suffocation, decreased heart action, excessive tiredness, great desire for sleep, loss of appetite, vomiting, nose and ear bleeding. Many people, familiar with the Andes, attribute the particular Andes mountain sickness to the tremendous amount of rich ores, the numerous underground water courses and the magnetic attractions. As an antidote raw onions and garlic are eaten; the nostrils of the animals are rubbed with these two vegetables in order to increase their breathing rate and blood flow. At a height of 3,000 meters a person with a full stomach will probably be affected.

The main force advanced over two routes. (Figure 3)

(a) The right (north) main column advanced from Plumerillo in a northwesterly direction across the eastern ranges, thence by way of Los Patos.

(b) The left (south) column moved by way of Uspallata and La Cumba on Los Andes.

On 15 January horses of the staff and of the "Granaderos a Caballo" were sent ahead on the north column route to the Los Manatiales (3,172 meters) area (an area protected against hostile threats) so that they could become accustomed to the steep rocky ascents and the weather

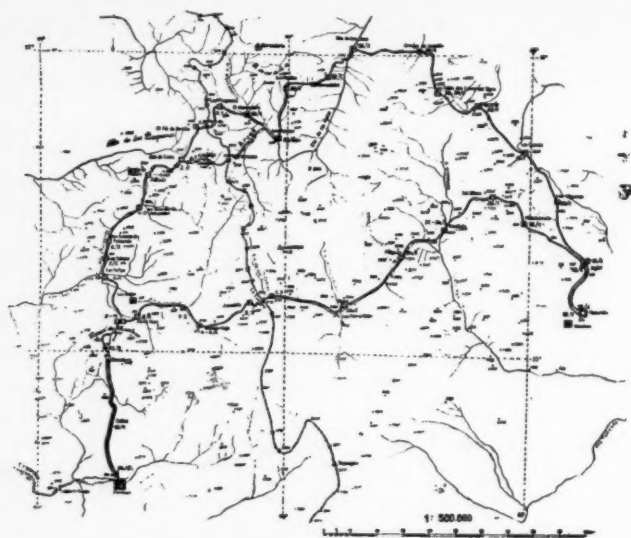


FIGURE 3. Routes of Advance of the two Columns.

changes. On 18 January, 483 cattle began moving to Los Manantiales, a forward supply base, where rations for 14 days, forage and bridge material were assembled.

The north column

The advance guard under General Don Miguel Soler marched from Plumerillo as follows:

On 18 January: the 4th Squadron of the "Granaderos a Caballo," and the grenadier company and reconnaissance company of infantry battalions Nos. 7 and 8; that is, two each of these companies, all told four companies and one squadron, all under Major Don Jose Melian.

On 20 January: the 3d Squadron of the "Granaderos a Caballo," Infantry Battalion No. 1 and 50 artillerymen with 5 guns, all under Lieut. Colonel Don Rudesindo Alvarado.

The main body, under General Don Bernardo O'Higgins moved as follows:

On 21 January: four infantry companies of Infantry Battalion No. 7; 2 infantry cannon.

On 22 January: four infantry companies of Battalion No. 8; 100 mounted men of the staff squadron.

On 23 January: the 1st and 2d Squadrons of the "Granaderos a Caballo."

On 24 January: the remainder of the artillery of the north column, the trains and army headquarters.

The south column

This column, commanded by Colonel Don Gregoris Las Heras moved from Plumerillo as follows:

On 18 January: Infantry Battalion No. 11 (6 companies); 30 "Granaderos a Caballo" troopers; 20 artillerymen with 2 cannon; a bridge train; several engineers with stone working machines.

On 19 January: 7 cannons and 2 howitzers; the militia squadron of San Luis and a detachment of engineers.

This column was followed by 217 cattle.

The march objective of both columns was the Los Andes area.

The left column was given the initial mission of reaching the Uspallata area and blocking the valley of the Mendoza river. It should halt there until the north column had reached an area approximately as far west (the route of the north column was much longer and more difficult). Next the south column should seize the heights east of La Cumbre, defeat the Spanish forces on the west slopes of the Andes (main range) and establish contact with the right column. On the west slopes of the Andes the left column should await the approach of the right column. When right column reached La Guardia de Achupallas the left should begin its advance on Santa Rosa, but should not enter this town prior to 8 February.

The right (north) column should advance as rapidly as possible in order to reach Los Patos at an early date, from where it would be possible, employing native guides to point out routes either side of the Aconcagua, to establish communication with the south column. From Los Patos the column should push on fast across the Andes and gain the exit from the valley of the Putaendo River. It should seize the heights north of Chacabuco.

The advance of the left (south) column:

This column was to reach Uspallata on 21 January and wait there until the north column had advanced a proportionate distance. Thirteen militiamen were at the relatively unimportant fortified position at Picheuta. Against this there advanced via Juncal (south of Aconcagua)—Vacas two Spanish companies (about 200 men) under Major Margnelli. A night march by 30 Spaniards over presumably impassable routes resulted in a surprise attack on Picheuta early 24 January. Some of the militia were killed, the others captured and the raiding party withdrew to Los Potrerillos. Colonel Las Heras ordered the immediate advance of the grenadier company of the 11th Battalion and "Granaderos a Caballo," under Major Don Enrique Martinez. At 4:00 AM, 25 January, after a forced march of 60 miles in 15 hours, Major Martinez reached the strong hostile position at Los Potrerillos. At 4:30 AM, without further reconnaissance, he attacked the Spanish position at the points. After a fire fight of 2½ hours, his ammunition was exhausted; he ordered retirement to Vacas. But the Spaniards withdrew first, initially to the pass at La Cumbre and later farther to the west.

At 7:00 PM, 1 February, the column reached the del Cuevas River (10,500 feet). Favored by the moonlight the troops began their ascent to the La Cumbre pass (central ridge line) at 10:00 PM. They arrived at the heights at 3:00 AM, 2 February and during the day continued to Juncalillo (9,200 feet). This march is probably the most significant night march at such heights, recorded in history. Distance, 14 miles; ascent, 2,300 feet; descent, 3,300 feet. On 3 February, Colonel Las Heras ordered Major Martinez with 170 mounted riflemen and 30 "Granaderos a Caballo" to attack the Spanish position Guardia Vieja. Based on the detailed information of routes as provided by a native weaver, the small force advanced. However, because of the extreme difficulties encountered along the routes, steep rocky slopes, and of the necessity for terrain reconnaissance, about 15 miles were required in reaching the Spanish position.

About one-half the force, 106 men, attacked the position frontally, while the remainder, 96 men, advancing over difficult, very steep and rocky terrain, struck the position in flank and rear. After 1½ hours' fighting, 40 Spaniards had fallen, 49 had surrendered and the remainder, under cover of darkness, fled towards Los Andes.

The main south column reached Guardia Vieja on 6 February. Shortly after noon, 8 February, it reached Santa Rosa (850 meters), which the Spaniards had evacuated the day before. The column had accomplished its initial mission. On 8 February connection with the north column, at San Felipe, was assured.

The march of the right (north) column.

The main (right) column began its march from Plumerillo on 19 January, and marched in six groups, one group per day leaving the camp. On 25 January, after his troops had all moved out, General San Martin took his departure from Mendoza.

The first two groups, under General Soler, formed the advance guard. The most important instructions given General Soler were: (1) the town of San Felipe was to be reached on 8 February; (2) communication was to be established along the Aconcagua river with the south column; (3) should the situation and the hostile dispositions and size permit it, Santa Rosa—Los Andes was to be attacked; (4) it was of utmost importance that the heights of Chacabuco be secured; (5) every effort should be made to surprise and overpower the Spanish outposts in the Andes; (6) should the advance guard be attacked by considerably superior forces it was to fall back on the following columns.

The advance of this column was executed according to plan. In spite of the difficulties of terrain, and, at the beginning, of water supply, the objectives set were reached on schedule. Until the crest of the Andes was reached, the greatest part of the march was made mounted on mules, including the infantry.

From Los Patos, San Martin despatched a flank detachment of 200 men, under Major Don Antonio Arcos, via Valle Hermosa, Cienega (where a Spanish post was known to be stationed), and Alto de Cuso, to Las Acherpallas. This area should be occupied and defended to permit easy access of the main body into the broad valley of Putaendo River.

The advance guard reached the camp east of Cuesta de Maiten on 3 February. On 4 February the detachment Arcos secured the defile at La Guardia de las Achupallas, defeating a force of 100 Spaniards defending there.

This action guaranteed to the main force the exit from the difficult mountain terrain. General Soler pushed forward rapidly with the accompanying squadron and the 3d and 4th Squadrons "Granaderos a Caballo;" he speeded up the advance of the infantry and artillery. On 6 February the troops of the advance guard were united in and north of San Antonio de Putaendo. Captain Necochea with 110 "Granaderos a Caballo" was ordered against Las Coimas. On the morning of the 7th this force encountered a Spanish detachment of 400 cavalry, 300 infantry and 2 cannon, in a strong position at Las Coimas. General Soler immediately despatched reinforcements—two squadrons of the "Granaderos a Caballo" and two infantry companies to Captain Necochea. Necochea, however, did not await these rein-

forcements. He feigned a double envelopment of the Spanish position. As the envelopers approached closely he feigned failure and a wild retreat. As he contemplated, the Spanish cavalry, stationed on either flank of the Spanish infantry, jumped to the attack and pursuit. When the "Granaderos a Caballo" had drawn the Spanish cavalry sufficiently far from their infantry and artillery support, they turned, struck and demoralized the Spanish cavalry. In the disorder and disruption the Spanish infantry also took to flight. The Spanish force, far superior in numbers, fled to San Felipe. There was no pursuit by Necochea's force.

The advance rested on 7 February, awaiting the arrival of the main body. As planned, the right column reached San Felipe on 8 February, the left column reaching Santa Rosa the same day. After reconstruction of the bridge (destroyed by the Spanish) over the Aconcagua River near San Felipe, the Andes army was united on 9 February southwest of Los Andes. A squadron, under Major Melian, was pushed forward toward Chacabuco to observe the enemy and reconnoiter the terrain.

By his victories of 4 February (Guardia Vieja) and of 7 February (Las Coimas) General San Martin became master of Aconcagua province and thereby was enabled to provide his army with supplies and additional horses. On 8 February San Martin sent a message to the President in Buenos Aires in which he expressed his great regret in being unable to follow the Spanish at once, but would require at least six days to secure replacements for his horses and mules, incapacitated on the march from Mendoza to Los Andes. Of the 1,600 horses and 9,191 mules which began the march, in spite of utmost care taken, only about 500 horses and 4,300 mules reached Los Andes in a usable condition.

Between Los Andes and Santiago there lies but one major terrain obstacle, the heights of Chacabuco. These heights form a half-moon shaped ridge between 4,500 to 7,200 feet high, extending from east to west and forming a connecting link between the Andes and the coastal range. The north slopes are very steep, the south slopes are much gentler, dotted with small hills, and receding gradually to Chacabuco.

As they retired from San Felipe to the south, the Spaniards occupied the heights near elevation 1820 with 2 companies and 25 cavalymen, in order to block the route.

When General del Pont learned on 9 February of the results of the engagements in the Aconcagua and Putaendo valleys, he directed that all forces south of Santiago assemble there to defend the city and he despatched Brigadier Maroto, with two half battalions, to Chacabuco. Maroto arrived at Chacabuco the evening of 11 February; he personally rode to the two companies on the north slopes (1820 elevation) and ordered them to defend to the utmost. Only when half their force was decimated were they authorized to withdraw. On 12 February Maroto intended to occupy the heights with his entire force.

Meanwhile, San Martin had sent two especially well qualified guides to Santiago, who kept him informed of the Spanish movements. On 10 and 11 February two engineer officers, protected by a squadron of cavalry, reconnoitered the heights and the hostile position. The west slopes (1432

meters) appeared more suitable for the ascent than the east (2237 meters).

On 11 February, one of the guides returned with information furnished by an agent in Santiago. It was an extract of General del Pont's order (copied in his own office) which directed the move of reinforcements to Chacabuco. Consequently, that afternoon (11 February) San Martin called his subordinate commanders and stated that it had been his original intention to attack 14 February, since the artillery would not be fully ready until then, but the information from Santiago demanded earlier action. Therefore, he had changed his plans and would march with all possible speed on 12 February against the enemy in order to attack him where met. He would have to forego full artillery support. He would give the enemy no time to unite his forces. He would defeat him in detail.

The Andes Army advanced in two columns. The east column, General O'Higgins, with 1,500 men (1st, 2d and 3d Squadrons of the "Granaderos a Caballo;"* infantry battalions 7 and 8, each with four rifle companies and two guns) had the mission of fixing the enemy in front. The west column, General Soler, with 2,100 men (the staff and 4th Squadron of the "Granaderos a Caballo;" infantry battalions 1 and 11, each of four rifle companies, one grenadier and one reconnaissance company; the grenadier and reconnaissance companies of infantry battalions 7 and 8; and seven guns) had the mission of attacking the hostile left (west) flank and reaching the decision.

At 2:00 AM, 12 February, the advance began, initially in one column, Soler's troops leading. O'Higgins sent infantry battalion 8 to the east, to give the impression to the enemy that the hostile right would be enveloped and, incidentally, to focus the hostile attention away from the actual envelopment. Soon Soler's column turned to the southwest, O'Higgins' continued south. On the Chacabuco slopes O'Higgins struck the Spanish west (left) flank and in a sharp bayonet affair drove it back. The Spaniards withdrew to the south, pursued by the 3d Squadron "Granaderos a Caballo." The reinforcements under General Maroto had been unable to reach the heights of Chacabuco; as the results of the engagement became known Maroto ordered the occupation of a defensive position some 2.5 miles north of Chacabuco (town). This position, about a mile in width, blocked the egress of San Martin's army into the plains.

San Martin authorized O'Higgins to pursue, with infantry battalion 8, the Spaniards fleeing from the Chacabuco heights, but under no conditions to bring on a general engagement against the new position until the cavalry had passed the defile lying between the heights which had just been taken and the position occupied by the forces of Maroto. But O'Higgins, with a burning desire to settle this thing himself, did not obey the orders. He advanced with battalions 7 and 8 against the position and into a well planned and executed fire, both infantry and artillery. His troops, suffering great losses, were forced to withdraw. San Martin himself appeared on the field with the 1st and 2d Squadrons "Granaderos a Caballo" and saw the Spanish cavalry and infantry advancing in pursuit of O'Higgins' force. He ordered Soler to attack the hostile left flank immediately while he personally led the two squadrons in attack, for the relief of

O'Higgins. This attack struck the left of the Spaniards pushed through and into the artillery positions. Cannoneers were cut down with the saber. As the cavalry charge was in progress, the leading elements (2 rifle companies) of Soler's column, whose advance had been accelerated, attacked likewise the left flank of the Spaniards, many of whom fell to the bayonet. The staff and 4th Squadron "Granaderos a Caballo," under Major Necochea had moved farther west; almost simultaneously with the other attacks he struck the Spanish left rear. These three attacks against the Spanish left and rear caused confusion and disorder and great losses on this flank so that O'Higgins' second attack against the right found a much disconcerted and unstable enemy—result—complete success. The Spaniards, attacked from three sides, sought to form a square, but unsuccessfully. Wild flight to the south followed. General Soler launched his main force in pursuit. The cavalry pursued 15 miles south of Chacabuco. Spanish losses: 600 dead; over 600 captured; 1,000 rifles; 2 cannon and all the trains. The Andes Army had 132 killed and 177 wounded.

The long preparations, the well planned measures of the great organizer, trainer and excellent commander, San Martin, found full fruition in the battle of Chacabuco.

History records few battles with so far reaching political consequences. This battle shook the Spanish master at its roots, gave the major portion of Chile its freedom and guaranteed success to the struggles by Argentina for independence. It paved the way for further operations against the Spanish in Peru.

The closing words of San Martin's message to the council in Buenos Aires, written 22 February, were these: "I shall be forever the glory of the Army of the Andes that in 24 days it completed a campaign, crossed the highest mountain chain of the earth, closed accounts with the tyrant and freed Chile."

After Chacabuco the Spaniards considered further resistance profitless. During the night 12-13 February they evacuated Santiago and fled to Valparaiso (60 miles). From here some were transported by ship to Peru, others to South America (Talcahuana). The artillery park at Cuesta La Prada fell into the hands of San Martin.

When San Martin learned, during the night 13-14 February, of the flight of all Spanish officials from Santiago he despatched Captain Aldao with 30 "Granaderos a Caballo" in pursuit and promptly started the remainder of his army moving on Santiago. It entered the city on the 14th, greeted by tremendous demonstrations from the populace. On the 15th, San Martin was chosen to be Supreme Director, but refused the honor and proposed General O'Higgins, who was promptly elected on the 16th.

General del Pont, a very sick man, and his immediate entourage were captured south of Valparaiso the night of 15 February and brought back to Santiago.

In South America critics charge San Martin with the following mistakes after his victory at Chacabuco:

- (1) Failure to pursue relentlessly with all his forces.
- (2) The advance on Santiago, evacuated by the Spaniards on 13 February, rather than directly on Valparaiso, to cut off the Spanish access to the sea.

*Mounted Granaderos.

(3) Failure to launch a campaign immediately against Talcahuano (south of Santiago) where the Spanish had good resources, strong positions and excellent harbors.

(4) Failure in these particulars resulted in the Spanish remaining masters in parts of Chile for more than a year more.

In answer the author writes:

The crossing of the Andes demanded from both leaders and men tremendous will power and physical endurance. After he united his army in the Los Andes area, San Martin considered a halt of six days necessary to get up all his artillery, to procure animal replacements, and to provide his troops with proper food and supplies. Yet, this extraordinarily active and capable commander, after but two days' rest, launched his tired troops in attack at Chacabuco, in pursuit to Santiago and despatched a mounted pursuit force to the coast.

Based on the information he received 11 February, San Martin knew that his opponent was assembling his troops for the defense of Santiago. He must assume that such a defense would be made, not that the Spanish forces would march off to Valparaiso the night of 12-13 February without giving battle. Had San Martin had timely information of this Spanish move it might perhaps have been possible for San Martin, with some of his force, to have reached Valparaiso simultaneously with the Spaniards, but it is an old war experience that the pursuer seldom marches as fast as the pursued. Moreover, the march of the Andes Army on Valparaiso might well have been a blow in the air. On the other hand, the occupation of Santiago guaranteed supplies for the tired army, stopped plundering by the mobs and guaranteed the early provision of a new government for the freed country.

The Spanish reaction in the area south of Santiago made itself felt under the capable leadership of Colonel Ordoñez. To counteract this San Martin despatched Colonel Las Heras, at the head of 1,000 infantry, cavalry and artillerymen to the south with the mission of defeating and dispersing the Spanish. San Martin himself had a greater objective in mind. The freeing of Chile was but a preliminary step in the emancipation of Peru where Spain's mastery had its focal point. But for an undertaking against the Spaniards in Peru the forces then in Chile were inadequate. Help from rich Buenos Aires was necessary in order to provide at the earliest a fleet which in turn would secure mastery of the Pacific and thereby secure the Chilean and Peruvian coasts. Therefore, a month after Chacabuco, San Martin travelled to Buenos Aires to lay his case before the powers there. Overcoming many obstacles, he succeeded in his mission and on 20 August 1820, the army under San Martin, and the fleet under Admiral Lord Cochrane, all told 8 warships, 17 transports, 4,000 men sailed from Valparaiso towards Peru.

The campaign in Chile demonstrated the great capabilities of San Martin, his far-seeing preparations, his determination of purpose, his indomitable leadership.

A brief statement of the march accomplishments of the troops would seem in order:

In the plans and orders issued by General San Martin the marches to be executed daily and the results of the road, water, wood and pasturage reconnaissances are recorded.

Right column: Plumerillo to San Antonio de Putaendo, 223 miles, executed in 17 marching days, or an average of over 13 miles per day.

Plumerillo to Santiago, 301 miles, in 27 days (elapsed time) or an average for the leading echelon of over 11 miles and for the 2d, 3d, 4th and 5th echelons, 18.5, 19.2, 20 and 13 miles per day.

Left column: Plumerillo to La Villa de Santa Rosa, executed in 10 marching days, or an average of 16.6 miles per day. This column marched a total distance to Santiago of 217 miles.

The question might be asked: What would be the influence of modern organization and equipment on an operation in the Andes today? It must be remembered that these mountains rise to great elevations (12,000 to 23,000 feet), that the valleys are often narrow and steep. That fliers, gas or tanks would prove especially effective against a force marching in multiple columns and echeloned in depth is questionable. Of course, the picture changes once the force reaches Los Andes. That the movements of the columns could and would be observed by observers in planes is probable and that the hostile high command, using rail and motor transportation, could concentrate his forces to strike the still separated columns is possible and probable.

Autogyros and wireless would facilitate the communications and spy report service. Parachute troops, especially in defiles, might be employed with surprise by both attacker and defender. Modern engineers and engineer technique would certainly relieve many route difficulties.

IS IT NECESSARY TO PRESERVE MOUNTED FORMATIONS IN THE CAVALRY?

["Faut-il conserver des formations à cheval dans la cavalerie?" By Lieut. Colonel Dario. Condensed from *Revue de Cavalerie* January-February 1938.]

BY MAJOR L. K. TRUSCOTT, JR., Cavalry

A question disagreeable to cavalry ears. Belgians reply in absolute negative. England, 50% mechanized, tends to total mechanization. Germany retains but a single large unit, a brigade in east Prussia. Considering the question may lead to useful reflections.

The idea of substituting motor for horse came logically as result of the war. From its beginning, the horse was forbidden the battlefield; Haelen sounded the knell of the doctrine of mounted combat by large units. The years 1917 and 1918 saw tanks cross fire-swept zones, penetrate hostile dispositions, sow disorder, and put enemy at the mercy of infantry—a role of cavalry masses for centuries. Off the battlefield, cavalry transported maneuver masses rapidly over great distances; the truck transported greater masses more rapidly over great distances. The truck permitted the audacious, wide and sustained play of reserves that characterized 1918. During the critical days of 1918, when large cavalry units engaged dismounted, armored cars in gaps contacted and surprised enemy columns, informed oriented and rallied elements of withdrawing troops. On the battlefield the motor was successfully substituted for the horse.

However, at the end of the war, the horse had arguments: In March, 1918, what but mounted formations could have regained contact as quickly with German rear guards

across the area devastated by them? In April, 1918, what else could have moved reinforcements to the north across the communications of English armies preparing for the new battle? Months later, what else could have clung to retreating Germans across ruins and fields of Flanders? What else could have crossed the Balkan mountains, turned Bulgarian-German resistance, forced capitulations in a few hours and reached the Danube in a few weeks? What of innumerable patrols, gliding across wood and marsh, swimming rivers, clearing obstacles, spying the enemy without being seen or heard, disclosing his movements, spending entire days within his lines, and returning by devious routes with rich information?

If it seemed logical to substitute motor for horse, the substitution can be only partial and does not irrevocably condemn the horse. It might be otherwise if there was actually an "all terrain" vehicle. Experience has calmed enthusiasms and passions; today we know that there is no mechanized "all terrain;" that the "all terrain" vehicle is likely to progress off roads in varying degrees according to the mode of propulsion, but always restricted and always at great cost; that the "all terrain" is certain terrain.

By displacing fire power at varied speeds ready for instant action, the motor brings an unhoped solution to the problem of liaison of fire and movement. Its speed, protection, and armament have changed conditions of reconnaissance and contact, extending the radius of action in width and depth. In transport, speed and radius permit accelerating movements to the front, and increasing distances to the rear. Thus, the motor has modified previous conceptions of exploiting contact, security, organization, and functioning of services. It has changed combat and maneuver by modifying methods of execution and rendering possible what formerly was not. Certain operations in South Morocco and, very probably, the campaign in Abyssinia, are not difficult operations made easier by use of motors; they are operations that might have been impossible without them. But the motor has rigorous limitations.

Mechanical limitations.—Motors consume a ration of gas determined in nature and quantity; moreover, imported. The ration allows neither substitution nor reduction. For maintenance, the motor requires at definite periods work and replacements, which suffer neither substitution nor reduction. Repair—today little more than exchange of worn parts for new—requires special parts in special quantity for each model of vehicle. At a particular time, lacking these parts, replacements, hours of work, gas, the motor stops service. There are no motors capable of further service on short allowance or worn out, provided they receive consideration and tolerance; there are motors perfectly served that move, or motors that do not move.

Motor formations must be employed within a limited, definitely known radius, or tied to roads on a system of circulation. Movement and employment of effectives are bound to requirements of maintenance. Combat engines are vulnerable; antitank cannon and mines ravage their ranks. After combat, a special service must immediately collect and repair damaged materiel, and failure risks losing costly materiel that could have been restored to service.

Terrain limitations.—Displacement of automotive vehicles depends upon consistency of soil and absence of obstacles. Lacking bridges, rivers are absolute obstacles; mountains, marshy countries, woods, or in bad weather cross-country vehicles must seek roads; therefore, mobility depends upon nature and density of roads.

Functional limitations.—From vehicles, armored, ordinary, or motorcycle, observation is poor while in movement; on the other hand, vehicles are easily seen and more easily heard. Vehicles are cumbersome. Columns are difficult to assemble, put in march, shelter, conceal, break up. The disadvantages forbid use for short distances. Vehicles and columns are exposed to ambush and, depending upon degree of vulnerability, to all forms of surprise.

Consequently, while possibilities of the motor render its use as necessary as powder, the motor has disadvantages that limit, and at times forbid, its employment. Mechanized formations have taken possession of the battlefield forbidden to the horse. Motor formations are taking over rapid and distant transport of masses. Left to themselves, even combined, these formations lend themselves badly to detailed actions; their contact gives only a special definition that cannot be directly exploited by other troops; they have difficulty in maintaining contact once made. For short displacement of motor formations, entrucking, security, circulation, and detrucking, consume advantages of speed. Mechanized formation cannot operate within heavy cover. Motorcycles, while invaluable for communication and perfect for distant surface reconnaissance, are of questionable efficiency for security during approach and contact. Forests, mountains, marshy regions, certain broken and covered areas like those found in the north, are forbidden motor formations unless exits are assured; they are forbidden mechanized formations except in general alignment of progressing front. Demolitions compromise movements both; unforeseen, they cause massing that aviation will make mortal. Fog, freeze, snow, can immobilize entire formations; finally, failure in circulation, supply, or maintenance exposes motor formations to complete paralysis. These restrictions are especially active in offensive maneuvers, but in defensive situations the defender is usually master of the terrain, his rear, and security.

Therefore, if there is need, under all circumstances, of force more rapid than infantry, a fluid and plastic complement to the motor is necessary; this complement can be only the horse. While the field of battle is forbidden to the horse, the approach is less forbidden than to the truck. Horse units have not the inertia of automobile units; they diminish vulnerability by formations and rapid dispersions. The patrols alone are capable of assuring full reconnaissance of terrain for the infantry. Their contact is like that of infantry, and is immediately utilizable without transportation. Their columns, supple and fluid, can cross woods and cover impenetrable for motors, or terrain broken by demolition, penetrate mountain labyrinths, swim rivers. Finally, the horse finds subsistence nearly everywhere. The horse endures fatigue and privations; he serves even when not perfectly served; a worn horse column drags perhaps, but moves, and a few days rest will reestablish it. Suppleness of horse units, their fluidity, their simplicity of maintenance

applies particularly to circumstances and terrain forbidden to motor formations. Motor and horse are therefore complementary one to the other.

Proportion between horse and motor involves all the factors of national defense, such as the nature of the war foreseen, the general orientation of operations, density of infantry possible, nature of terrain and climate in theaters of operations; credits and personnel available, for the motor is costly in money and effectives; national resources, particularly breeding, which imposes a minimum of effectives in time of peace; finally, on the degree in which conduct of war can be left to mercy of supplies that depend on the morale of the rear and good will of foreigners. Consequently, solutions differ in different countries; Belgian will differ from British or German, ours may differ from others. The two nations that have gone farther in favor of the motor are those faced with particular war conditions: Belgium envisages only a defensive action waiting intervention by allied forces; Great Britain counts on air and sea fleets for insular protection, maintains a colonial army for defense, and if it engages in a continental war, chooses its conditions. In a situation less definite, the German solution is less decided.

More in question is how to employ our remaining horse units, for their role is not the same as formerly. Admitting that the missions of cavalry are unchanged, the motor can take over some of them; therefore, the missions do not exist for horse formations alone. From that we can conceive the new role of horse formations under two forms: a normal role which will do what the motor cannot, or which the horse can do more easily, at less cost, or at less risk; an eventual role, which will be to supply momentary deficiencies of automobile formations.

This employment demands light and fluid units able to alter through woods, climb mountain slopes, penetrate broken and covered country where the motor cannot, and where success will be, not to the strongest, but to the first to arrive. This use requires: supple and plastic units that can establish and maintain contact without gaps even on a moving front, so that infantry can determine when to end its approach march and properly orient its deployment; units capable of cooperating with motor formations, such as by constituting a pivot of maneuver for a motorized maneuvering force; units capable of making up for deficiencies of motorized and mechanized formations, of taking great widths, of accomplishing far from support missions that may lead to actions in force, and for that, capable of absorbing powerful reinforcements.

Will not our cavalry division, in which 16 squadrons of mounted men are a minority in effectives and volume, be more adapted to the eventual role than to the normal? They are equipped for independent action; they have means of operating far from support: means of force, provisions, echelons, services, engineer means. They are powerful but heavy. But large cavalry units that could execute a distant raid during the war, as that over more than 400 kilometers from Macedonia to the Danube, which cut an army from its base and captured cities, was a formation without baggage or artillery, and which asked and received no other supplies than horseshoe nails dropped by airplanes. To fulfill such a mission we should abandon the modern cavalry division.

In an organization born of the war on the Western Front, of reinforcements individually justified, we have reached the point where the division, which by origin and definition should be the smallest group of combined arms that can be efficiently employed, can move only by breaking up and forming mixed groups. Worse—not special to the cavalry—in desiring to put these units in position to fight new means, we have not taken into account that they might and should fight with their support.

The motor diminished needs but there was more to do. Motorizing trains by replacing wagons by trucks increases weight because the truck is heavier and more cumbersome than a wagon and requires more to supply, maintain and repair it. What would have lightened immensely would have been to consider that trucks, in a few hours over hundreds of kilometers, can deliver to units when required equipment that had to be carried at all times when trains were animal drawn. Similarly, if mechanization for horse regiments has no other purpose than to provide antitank means and greater armament, it is a drawback, but if we consider that enemy tanks are a threat only where our own can operate, then mechanization can be for cavalry the ideal antitank means, present when needed, absent when not. In such case, to give horse units support of mechanization is to reinforce and protect, and not to weight them. Mechanized fractions operating with horse units can be used under circumstances, terrain, and conditions where employment of mechanized masses would be impossible. There is difference in employing a platoon of armored vehicles on a long forest road where cavalrymen scout the flanks, and employing a long column incapable of observing its own flanks.

Considering capabilities of the motor, aerial as well as terrestrial, horse formations should be reorganized. The influence of employment of motors not only on distribution of cavalry missions, but on the missions themselves, should furnish a basis and orientation.

We observe at once that the role of mobile fire reserves, primordial at one time, is no longer peculiar to the cavalry. We note that missions of exploration no longer have place of first rank which was once theirs. Rapidity and intensity with which situations change today have lessened interest in information obtained by exploration. Further, to hope to obtain information other than by sudden contact with powerful mechanized means risks being a dangerous illusion. The offensive can draw only the same advantage from rapid means of transport as the defense.

On the other hand, the primordial importance of security missions is always increasing: security of the commander, for there is risk of being caught and losing liberty of action at great distance; security of troops, for the approach march should begin at a distance, with attendant risks of losing direction, intermingling and fatigue.

These observations may lead to stopping arguments with infantry where cavalry risks mobility without hope, and to abandoning the costly mirage of "exploration" and "pure" cavalry missions, which by cruel irony fall more and more into the domain of the motor. Further, these observations may point out the very real necessity of "distant security."

Without going as far as the Germans, who divided large cavalry units into reconnaissance groups, the formula may

be found in a modernized version of the old first line brigade. The character of distant security, relative proximity of infantry, possibility of rapid reinforcement, oppose all temptation to weight units. The necessity of covering a corps front imposes the effective minimum. The necessity of operating in small detachments requires a rich subaltern cadre; varied form of missions, obligation of maneuver, necessity of absorbing reinforcements frequently, requires same richness in superior cadres. Nothing should hinder grouping of units for missions of another nature, and of reinforcing them temporarily with specially necessary means.

The type cavalry units should be the division with two or three horse regiments; a mechanized regiment, necessarily comprising a powerful antitank armament; a group of artillery, mortars rather than guns; a signal detachment; an antiaircraft detachment; a well equipped staff. Horse regiments, provided with a strong platoon of motorcycle messengers, would be otherwise light in motors and trains; combat trains should be restored to the mobility of units by returning to animal drawn means. Certain subdivisions, such as the Spahis who are mountaineers, should be equipped and trained for mountain warfare.

In place of existing cavalry divisions, a greater number of horse formations, well in hand, mobile, supple and light without being weak, would permit furnishing large units engaging in delicate maneuvers with the distant security required. These same formations, grouped or alone, would be able to perform all missions formerly devolving on the cavalry divisions. Further, they would be able to cooperate with motor formations, supplement them, or in case of need, to take over a part of the front. In a simple combination would be found the role and place of the two elements that join today in giving cavalry its mobility and power: the motor and the horse.

Torn from the contradiction that tries at once to make mounted infantry and reconnaissance cavalry become light again by institution, the horse formations would again take the habit of maneuver "à la légère." They would find again for application in modern surroundings, old qualities that deployed light troops in the so-called "war of advanced posts." This would be of great advantage to infantry which would also become maneuverable. The development of scientific means should exalt rather than weaken the original characteristics of the old arms; first, because they are aided in action and relieved of duties; second, because to assure the precision and speed necessary for employing means more and more varied, small units and regiments must be taken from a complexity and organic instability that accommodates neither instruction nor maintenance.

It is not a question of returning to the antique simplicity of the three arms, but it is necessary to correct an organization which, by force of circumstances, was realized by additions and successive corrections. New formations would gain in knowing their materiel better and more quickly, in acquiring practice, and in testing results. As for old arms, collaboration with modern engines should be a return to principles, and to making best use of particular means. In a more restricted field, individual qualities will determine themselves.

THE INEVITABILITY OF CONTINUOUS FRONTS

["La fatalité des fronts continus." By General Rouquroll. Condensed from *Revue Militaire Suisse*, December 1937.]

By MAJOR T. R. PHILLIPS, Coast Artillery Corps

"We shall not recommence trench warfare," is a familiar refrain to all who lived through it. But what do they know about it?

It was the effect of causes already old, but none of the belligerents had paid attention to them.

The question whether it will be in our power to prevent the formation of continuous fronts, and the trenches which characterize them, depends upon the survival of the cause.

An anonymous author, in a study on the evolution of tactics, wrote, in 1891: "We do not agree with those who claim that the offensive has lost nothing of its value. The defensive is not, as has been said, an attitude whose value resides in purely defensive advantages. It has its own virtues." And further: "One of these lines (one of the opposing fronts), unable to succeed in front, will attempt to envelop the other; this one, in his turn, will prolong the front, and it will be a race as to who can extend the most within the limits permitted by his effectives. Or at least things would develop that way if one could extend indefinitely; but nature imposes obstacles. The line will stop at a point of support, the sea, a mountain range, or the front of a neutral nation."

These previsions were unheard in the concert of authoritative voices proclaiming the headlong offensive. Tactical instruction continued to spread the blind offensive in the first combats of 1914. The prophetic sense of a war conflicting so violently with current ideas had motivated the anonymity of the author. He was revealed in 1914 as Lieutenant Colonel Emile Mayer, to whose reputation as a military writer nothing needs be added now.

On friendly terms with Marshals Joffre and Foch, he had vainly sought to make them understand his ideas.

This ancient history is not without interest at a moment when certain spirits attempt to turn aside the preoccupations of a new war of trenches by hypotheses on the causes of the stabilization of 1914. Can one not see, states one, the result of a series of accidental causes or of General Falkenhayn's particular conception of the conduct of war?

In these two cases, there is no reason for the effect; the causes which have disappeared to occur anew.

No one would dare hold that the realization of the war foreseen more than twenty years in advance and followed by irreproachable logic, was the result of simple coincidences or of chance.

As for the hypothesis of the personal influence of General von Falkenhayn on stabilization, it appears to be destroyed by his first acts as supreme commander of the German armies, 12 September 1914.

Actually, after mid-September, he ordered the German Fifth Army, between the Meuse and the Argonne, to advance. An analogous order was given at the same time to the detachment of General von Strantz to move from the region of Metz toward the heights of the Meuse. These movements manifestly had as object the investment of Verdun. The victory displayed by the troops charged with these missions shows that they were stopped after incontestable tactical successes.

not by order of the Supreme Command, but by the resistance they encountered.

We are thus led to recognize that the formation of continuous fronts in the World War was the logical consequence of higher causes. Lieut. Colonel Mayer indicated them in 1891. Are they still effective? They are: (1) the power of armament particularly favorable to the defensive, and (2) the increase of man power in modern armies. Both have evolved since the World War, but uniquely in the sense of augmentation. This first verification is decidedly of a nature to lead to the belief that its consequences have followed the same progression.

The essential characteristics of modern materiel appear to confirm this first supposition. We shall examine from this point of view the actual possibilities of artillery, aviation, mechanization and motorization, and finally of gas. These are the branches of modern materiel whose perfection since the war might lead to serious modifications of the tactics of 1918.

When we took the field in 1914, ranges in excess of 7,700 yards were considered exceptional for artillery. The greatest range of French cannon was about 11,000 yards for the 155-mm long and 3,000 or 4,000 yards more for the German 180-mm. The range of the giant German and Austrian howitzers did not exceed 13,200 yards.

Artillery observation posts were always distant from the objectives, and the uncertainty of unobserved fire generally prevented its employment. In the course of the war, aviation coming to the help of terrestrial observation, permitted the use of observed fire from the extreme range of the guns. Careful ballistic studies supplied the methods of efficacious map fire, especially by the use of concentrations of fire.

Under these conditions and thanks to present long ranges, batteries spread over 10,000 or more yards of front can execute concentrations of fire without direct observation over the whole of their front. These possibilities were evident on many occasions during the course of the World War, but it is evident that they have been augmented by the increase of the ranges of the guns and the superior instruction of the artillery personnel. This gives an advantage to the defense, the organization of which can easily be superior to that of the attack, because of its stabilization.

Among the examples of concentration of fires that the World War furnishes us, two are recalled which can give an idea of the services to be expected of long range artillery in the future.

In January 1915, the German XVI Army Corps held the front of the Argonne from the Aisne to the height of Vauquois, still famous for the bloody combats of which it was the theater. This front included a wooded part, the Argonne, where the German troops attempted to advance, and a part covered between the Argonne and Vauquois included the latter part, having received a defensive mission, was constituted as a distinct sector from the forest under the orders of the artillery commander of the army corps. He was particularly apt to get the maximum returns from his armament. In fact, although this German sector was held by a very small infantry strength for its extent, it held against all French attacks.

In the region of the heights of the Meuse, in November 1914, a concentration of fire of forty pieces, opened in less than a half hour, quickly ended the menace of a serious German attack.

It results from these considerations that modern progress in artillery gives new possibilities of extension and to forces on defensive fronts.

Aviation gave birth to great hopes for the attack. Camouflage of terrestrial organizations and the custom of making important movements at night have reduced the effects of its activity singularly. Its role in reconnaissance at all distances is considerable; but it cannot hope to prevent all discovery of movements by the enemy. It is thus logical to believe that all efforts at envelopment will collide with an extension of the front attacked under the same conditions as in 1914, to the degree that reserves are available.

At the present time it is difficult to form an accurate opinion of the capabilities of parachute infantry. Without drawing definite conclusions from the experiments in France during the autumn maneuvers, one can say that they have not thrown much light on the utility of this novelty. Until proof is given to the contrary, the actions of the parachutists do not seem to be able to exceed the limits of very risky episodes.

Aerial superiority certainly will give an advantage to the contender who has it, but nothing authorizes the belief that it will be decisive. It will not prevent the inferior contender from establishing defensive lines in front of which an attack may receive a bloody check.

Motorization of the ground forces gives the same facilities to the enveloping maneuver of the attack and the counter-action of the defense. Like all technical surprises, the tank, at its outset, gained the success due to surprise. But on a modern battlefield this success will be difficult to renew against a defense using artificial obstacles, mines and anti-tank cannon. The Abyssinians, who were nothing but savage warriors, even found the means to trap a dozen Italian tanks.

Isolated feats by mechanical engines can never be prevented. But in mass they are not capable, with their own means, of carrying through an attack, and their employment in mass requires an extensive artillery preparation.

It is certain the motorization and mechanization will extend fronts inordinately. At the same time it increases the difficulty of protection. In the British maneuvers of last autumn, one of the sides was entirely mechanized; the other was partially and included foot infantry and horse cavalry; the reconnaissance elements of both sides were able to reach the command post of their adversary. In the same maneuvers the defender was skillful enough in the use of obstacles to canalize the attack of the enemy tanks. They were caught in a trap and fell under the fire of antitank guns. A counter-attack by tanks completed their defeat. This episode was an affair of tanks and the infantry does not seem to have played a role.

One sees in the modern tank the successor of the armored knight. History shows the many successes of the latter. But fire arms, slowly perfected, finally chased him from the field of battle. What will become of the tank as artillery becomes perfected to destroy it? This is a secret of the future that exercises of peace have failed to unveil.

In any case, in the present state of armament, the employment of tanks does not seem to favor one side more than the other in combat. The observers of the last British maneuvers even estimate that they give the larger advantage to the defense.

Gas attacks will create, without doubt, local episodes. Comparison of their effect in attack and defense can furnish no other conclusion than, like artillery, they will be of greatest advantage to the defense.

These considerations seem to corroborate, for the future, the same previsions of Lieut. Colonel Mayer which were realized in 1914. They confirm the course of opinion which, in the decisive period of the World War, prescribed the creation of successive positions and the formation of strong strategic reserves.

Fire power "will predominate tomorrow on the field of battle, where it will reign as master with accrued violence and depth due to the progress of bombardment aviation and the increased range of guns." Such is the statement in the preface of the French instructions for the employment of large units of 12 August 1936. In it the offensive and defensive are treated as forms of war for which soldiers should be equally prepared. The tendencies reflected in German regulations appear to show greater preference for the offensive.

Offensives against a front organized in depth, even hastily, were so ruinous in the last years of the World War that their check constituted a veritable victory for the defenders. This was shown in the second battle of Champagne in September 1915, the battle of the Aisne in 1917 and again in France and Flanders in March and April 1918. In the latter two the failure of the Germans to break the lines had all the moral repercussions of a grave defeat. The progress of armament can only accentuate this tendency in the future.

Need one fear that technical surprise will contradict the previsions indicated? We do not think so.

Our conclusion must be, that despite all the arguments of sentiment against stabilization of fronts in a great war, and in spite of the surprises of unknown devices, war between great modern nations will evolve rapidly toward stabilization and usury.

THE FIXATION OF FRONTS

["L'immobilisation des fronts." By Lieut. Colonel Mayer. Condensed from *Revue Militaire Suisse*, January 1938.]

By MAJOR T. R. PHILLIPS, Coast Artillery Corps

In the December issue of *Revue Militaire Suisse*, General J. Rouquerol quoted Colonel Mayer's prediction, published in 1891, on the future stabilization of fronts of battle. In this issue Colonel Mayer expresses his ideas on the subject and explains their genesis.

The development of firepower of all types of weapons resulted in an almost inviolable front. However, this did not justify a renouncement of the struggle and giving up of attempts to solve the problem thus posed. It was necessary to force or turn one of the extremities of the line to take the position in the rear. As soon as an envelopment is noticed by the enemy, even though it may not be wide, the threatened

wing withdraws almost instinctively. For, from the moment it finds itself between two fires converging on it, being unable to riposte in two different directions, it renounces the unequal struggle.

It is apparent that the defender can protect his flank against a turning movement of small amplitude by his fortification and the classic procedures against flanking movements. But if the envelopment is made at considerable distance and with important forces, the consequences are much more redoubtable. Lines of communication and evacuation will be endangered. Railroads and roads will be blocked.

Thus, *sine quo non* of stabilization is an impregnable flank. I made this definite statement in the *Revue Militaire Suisse* in May 1902. I said then that to maintain the rigidity of the front it must be supported against the sea, a mountain range or a neutral frontier; in brief, an obstacle that could neither be turned or forced. These two conditions, fire power and impregnable flanks, are indispensable to a continuous front.

Fire power is a relative term in this case. If the opposing forces are equivalent as a whole, either as to means they possess, or the number of effectives, the inviolability is assured in principle. If the opposing forces are very unequal, if equilibrium does not exist, or if it is broken over a zone sufficiently extensive, the front is in danger of being forced back and pierced in that region.

Some years earlier, I had explained my ideas to my comrade Toutee, then director at the Ecole Supérieure de Guerre. He objected that a division could not hold a front more than a league (three miles). According to Toutee, our twenty army corps would be able to furnish twenty-five active divisions—the others were not considered of value—thus the line of resistance could not exceed twenty-five leagues, approximately the distance from Dunkirk to Brest. My contradictor concluded that the establishment of a line of resistance on our northern frontier would absorb the total of our active troops and there would be none left for our other frontiers or for an important reserve.

After the formation of fronts in 1914, both sides were short of ammunition. If the invaders at that time had been well supplied, and the French supplies exhausted, a breakthrough could have been made with a frontal attack. The preponderance could have been obtained by different means. Early use of gas might have upset it. The continuous front can be broken if there is a sufficient disparity of force. The stabilized front is the result of approximately equal forces and impregnable flanks.

It is difficult to see that aviation would be able to overturn this statement, but I hesitate to make a prophecy. In fact, I did not prophecy in 1891 and 1902. I never attempted to inculcate my friends Joffre and Foch with my ideas, but simply to broaden theirs. Both had a precise idea of how the war would be fought, and I told them they were wrong. I represent it to themselves a priori and that the future would give the lie to their previsions. Above all, I thought they deceived themselves in placing their confidence in the long offensive. I wrote in *L'Opinion* in May, 1909: "I believe that this theory is false. I believe it even more dangerous than false." (May I not be permitted to say that these two lines are those I am most proud to have written

THE GERMAN ARMY IN 1937

["L'armée allemande en 1937." By Colonel von Xylander. Condensed from *Revue Militaire Suisse*, February 1938.]

BY MAJOR T. R. PHILLIPS, Coast Artillery Corps

Colonel von Xylander, German Army, Retired, is a well known military writer and is now one of the professors of military history at the Kriegsakademie in Berlin. This article contains considerable information about the German army that previously has not been available.

The grand German maneuvers of September 1937, in the region of the Baltic Sea, were an important event; they attracted considerable foreign attention. The maneuvers of the ground forces took place in western Pomerania and in Mecklenburg, a terrain of rolling hills, cut with numerous lakes and some forests. The presence of three army corps, including numerous motorized and armored forces, rendered the maneuvers more important than any of those that had preceded it in Germany and even in foreign countries. To these was added the collaboration of the navy and aviation. The field of action of the latter was considerably more extended than that of the two ground armies. The fleet maneuvers took place on the Baltic Sea. Here, in its larger lines, is the theme of the maneuvers:

A convoy of troop transports had been sent from East Prussia, by sea, toward Swinemunde—Stettin, and had been attacked, while en route, by the adversary. This occasioned combats on the sea and in the air, as well as the start of a commercial conflict. Each party had a large air force. The objectives assigned to the air forces exceeded greatly, laterally and in depth, the front established on land. Within the radius of aerial activity exercises of passive aerial defense were conducted during the entire week of the maneuvers. In this fashion, the civil population was able to prepare itself for modern war certainly will not spare them.

These combined maneuvers, affecting the armies of the land, sea and air, supplied a precious occasion to test the command organization introduced in Germany and which should assure the collaboration of these three armies with a view to realization of their common objectives. The exercises, which cannot be explained in detail, aroused, for this reason, an extremely lively foreign interest and have provoked many pertinent discussions on the development of the new German army.

In effect, the maneuvers were the result of a year of instruction during which, in conformity with the laws of military conscription, the restoration of the army advanced methodically. For the first time, in the autumn of 1937, men who had completed two years training, henceforth normal, had been mustered out. By the decree of 24 August 1936, all men who were fit for service received this instruction, either in the armies of the land, sea and air. In addition some volunteers could be engaged for longer duration, and were assigned to functions requiring special knowledge.

Older men, who during the period of limitation of armaments had not received military instruction and who could not be called for two years training, took part as "reservists" in an eight weeks course of instruction. In the autumn of 1937, the class of 1915 as well as the 1912 class in East Prussia had been called normally to arms, after having been

in labor camps. The conception of obligatory military service, effectively realized in Germany, calls for an arrangement between those who have been called for military service, and from this fact have submitted to a restriction on their civilian career, and those for whom this is not the case. To effect this purpose a military tax has been introduced, effective 1 September 1937; it affects for the present only those members of the classes of 1914 and 1916 who have not been called into service. The tax is due until the end of the year in which the contributor reaches the age of 45. It is calculated as follows: during the first two years (which corresponds to normal service) at 50% of their income, and after that at 6%.

The law on aerial defense, published last year, does not indicate an extension of obligatory service, for it does not require military services. It should be interpreted as follows: All Germans are required to take part in aerial defense. The services of alert, security, first aid, and of individual industrial protection, are constituted in groups charged with organizing aerial defense. The "Reichsluftschutzbund" organizes and instructs teams for self-protection. In other domains it functions in the quality of counselor.

During 1937, the regulations required by the introduction of two years service were put to test. "Military service is a service of honor for the German people. It requires the soldier to give himself to assure the existence of the nation, even to the sacrifice of his own life." This fundamental assertion is destined to place in evidence the moral and psychic forces of the combatant as well as his physical and military training. Veracity, absolute obedience, punctuality, exactitude and severity are indispensable qualities. In turn they provoke will, courage, resistance, the sentiment of honor and the modesty the soldier should possess. Reciprocal confidence between the leader and his men on the one part and comradeship on the other should constitute a solid lien in the organization. Drill is considered as an indispensable means for the formation of soldiers, but not as an occasion to conduct formal exercises without purpose.

The objective of the second year of training is the education of the isolated combatant and instruction in special branches. In addition, upon completion of the first year they should be able to function as leaders of groups and instructors. During the second year special importance is attached to the education of reserve officers.

The formation of active officers, who, in their quality of instructors have heavy tasks, is given special attention. The number of officers to be educated having been considerably augmented, due to the introduction of two years of service, it has been necessary to reduce the period of instruction from four years to two and one-half years. This has resulted in minute regulation of time to gain the greatest benefit and a heavier effort on the part of the students. During the first year the "Fahnenjunker" (aspirant officer) participates as a simple soldier; he is nominated six months later if he proves to have the necessary qualities for advancement and terminates the cycle of instruction as a non-commissioned officer. By this time he should already have demonstrated his qualities of leadership. Next, the future officer is ordered to the war school where he receives theoretical instruction. A first examination must be passed before

his nomination of "Fahnrich" (aspirant). The final examination decides whether he will become "Oberfahnrich" (first aspirant). The latter still goes two months to the school of arms where he acquires special knowledge for the employment of the diverse arms. After a new stage of two months of practical service the selection of officers takes place. In advancement to the grade of lieutenant, the character which a leader should have plays a determining role, as compared to results obtained in practical and theoretical service.

In 1937, the new army shows that it will follow in the footsteps of its predecessor. The traditions of the ancient soldiers transmit themselves to the present. The new units are in intimate relations with the associations of former combatants. Measures have been taken to aid soldiers in civil employment after their service. Particular attention is given to noncommissioned officers of long service to aid them in their future in civil life.

"An important advantage of the Diesel engine is that it is not affected by weather conditions since it has no delicate electrical apparatus to become out of order. Furthermore, the Diesel engine does not have to be "shielded" to permit the efficient use of radio communication. It is a problem to shield the gasoline engine when used in military vehicles to permit the operation of the now vital military radio communication system. Due to the greatly increased mobility of mechanized armies, the importance of radio communication, free from all interference, cannot be underestimated.

At the present time, great progress with Diesel engines and trucks is being made in Germany and France—Germany having over 8000 Diesel trucks and France over 7000. Great Britain has over 4500. To the United States belongs the credit for the first commercial Diesel engine to be put into regular service. This engine was a 60-horsepower, 2-cylinder unit built at St. Louis in 1898."

—Walter C. Sanders, *Army Ordnance*.

Book Reviews

BY LIEUTENANT J. W. RUDOLPH, *Infantry*

THE NAVY: A HISTORY

BY FLETCHER PRATT

496 pages . . . Garden City, N.Y.: Doubleday, Doran & Company

The stirring traditions of the American Navy, its colorful history, and the men who built it, are vividly portrayed in this highly personalized account of the United States Navy. The builders of American seapower are the supports upon which the book is built, and they constitute a stirring roll call. The work will rank among the most popular histories of the Navy.

Periods of naval history are reviewed in terms of the men who dominated them. Assisting at the Revolutionary birth of the fleet were Jones and Biddle, with Barney and Barry in secondary roles—these men created a navy which bequeathed few victories but a wealth of courageous tradition. The days of the Barbary pirates and the War of 1812 witnessed the flowering of a small but efficient fleet—a generation dominated by the stern and unflinching Preble, whose uncompromising discipline trained the outstanding battle captains of the second war with England.

Perry, the sailor who opened Japan, and the civilian Bancroft, stand out in the pre-Rebellion period; Bancroft's greatest work as Secretary of the Navy being the creation of the Naval Academy. The courage of Farragut, the technical genius of Ericsson, and the ordnance skill of Dahlgren were the naval guide posts of the Civil War. Dahlgren built the great guns to put into Ericsson's revolutionary ironclads, while Farragut fought the battles.

The great theoretician Mahan, in the years between 1865 and 1898, propounded the strategy fulfilled victoriously by Dewey and Sampson at Manila and Santiago. The World War was a triumph for the teamwork, training and ingenuity of our modern navy.

As a colorful, swiftly moving story of our naval past, Mr. Pratt's history is one of the best, although marred by unnecessary minor errors of detail which rob it of much value. It contains little of naval policy, administration, and thought, however, and therefore fails to answer many pertinent and important questions. In general, the author has done a good job, presenting a brilliant panorama of blue water and the men who have sailed our fighting ships.

THE LOST BATTALION

BY THOMAS M. JOHNSON AND FLETCHER PRATT

338 pages . . . New York: Bobbs-Merrill Company

On 2 October 1918, 790 men of the 77th Division, commanded by a New York lawyer, Major Charles W. Whittlesey, went over the top and into the Argonne Forest. Five days later, 194 stumbled out. In those five days the "Lost Battalion"

forged an immortal legend of courage, horror, and sacrifice. Twenty years after, comes the complete story of that heroic incident of war.

Five days in the battered tangle of the Argonne left indelible scars in the brains of the few who survived—scars that drove Whittlesey to suicidal death and sealed the lips of the men who came out. Rarely is a survivor found who will even mention that he experienced the nightmare.

Horror—not so much the horror of shattered minds and bodies, but the frustration of helplessness—stalks the pages of this book. Men expect to be killed in battle, but not by their own artillery. When they die because the food and medicines intended to save them fall into the hands of their enemies before their very eyes, death becomes truly tragic. All these things happened to the Lost Battalion.

Many myths which passing years have thrown up around the battalion are exploded by this book. In the first place, the battalion was never lost. It was exactly where it was supposed to be, and everybody, including G.H.Q., knew it. The charge of violating orders that supposedly hounded Whittlesey to his death is shown to be unfounded. The gallant major obeyed instructions to the letter. It was not his fault that, having captured his objective with a body of new troops, he was cut off and unable to withdraw.

The Lost Battalion deserves its special history—a story that is stark and true without robbing the battalion of an iota of glory. The authors have recreated notably a vivid picture of five heroic days with a graphic account that is both simple and authentic.

THE AMERICAN CIVIL WAR

BY CHARLES R. FISH

Edited by William E. Smith

531 pages . . . New York: Longman's Green & Company

Critics acclaim this posthumous book of Professor Fish the greatest interpretive work ever written on the Civil War. It is a book concerned with causes and results rather than narrative; consequently the account of military operations is of minor importance to a thorough study of the background and effects of the sectional struggle.

On many of the familiar aspects of the war, Professor Fish takes sharp issue with traditional beliefs. He does not accept the economic explanation of the outbreak of the conflict; neither does he regard the war as inevitable. The North did not have the edge from the start and did not actually clearly see victory until the fall of 1864. He even goes so far as to suggest that, in the light of 1861, the South had the advantage, since a successful defensive war was the only necessity for victory. In these views Mr. Fish concurs with Major Sheppard. (See review following)

Not Gettysburg, Vicksburg, nor even Atlanta were the decisive battles of the struggle. The real decision was reached

behind the Northern front in November, 1864. That decisive event was the reelection of Lincoln; thereafter a reassured Federal government applied the pressure that made the outcome inevitable.

Prolonged research, an independent and discerning intelligence, and brilliant literary style make this analysis of the War Between the States a fitting memorial to the author. Professor Smith, who contributed two excellent chapters on war finances and constitutional questions, has saved a valuable work which, without his editing, might never have been published.

THE AMERICAN CIVIL WAR, 1864-1865

BY MAJOR E. W. SHEPPARD

171 pages . . . Aldershot: Gale & Polden, Ltd.

It may be a hitherto unenunciated law that Americans ought to quit writing about the Civil War and leave it to the English. Certainly, out of the mass of literature concerning the Rebellion, many of the most outstanding pieces have come from the pens of British soldiers. Major E.W. Sheppard has added another success to the record of his brothers-in-arms with a book which could well grace the library of every officer.

American historians are perhaps so near the scene and time of the Civil War that they miss the woods for the trees. Not so Major Sheppard, who sits well back in an atmosphere of unprejudiced perspective and smokes his fast one straight down the middle. In 171 brief pages he has compressed more truth about our Civil War than our own historians have been able to inject into many bulky tomes.

To Major Sheppard, the critical period of our Civil War was the two year stretch of 1864-65. Not until then did the Union put into operation a strategic plan calculated to win the war. That plan was the true "Grand Envelopment," carried on over an area of thousands of square miles of some of the most difficult and diverse terrain on earth. While Grant held Lee in the east, Sherman broke the back of the Confederacy and then quenched the southerners' will to fight by bringing the horror of war into the heart of the South. In only this way was it possible to win the Civil War, which was the first truly "national" conflict wherein all the resources, moral strength, and population of two states were poured into the struggle. Defeats of armies were not enough; the materials of war and the will to fight had to be destroyed.

The book contains excellent summaries of the resources of the belligerents, finding therein not such a Northern superiority as we had been taught to believe. Discussions of campaigns and strategy are masterpieces of concise, meat packed clarity.

THE LAST FIVE HOURS OF AUSTRIA

BY EUGENE LENNHOF

269 pages . . . New York: Frederick A. Stokes Company

At 3 o'clock in the afternoon of 11 March 1938, Eugene Lennhoff, editor of the *Vienna Telegraph*, was awaiting a last-minute statement from the Austrian government concerning the scheduled plebiscite. At 8:00 PM, as Chancellor Kurt von Schuschnigg sounded the death knell of independent Austria,

Herr Lennhoff fled toward the Hungarian frontier. Through the last five hours of Austria, he had his finger on the pulse of events which were happening too fast even for his trained senses. His story of those last hours, while hastily written, is a splendid job of reportorial writing.

Loyally Austrian and violently anti-Nazi, Lennhoff could not be anything but partial. He minces no words in his opinion of the Hitler government, yet he holds his own government largely responsible for the debacle. Had the Austrian government met its problems squarely, had it not fumbled its opportunities, the clever and inevitable Nazi penetration would not have been possible.

Schuschnigg's incapacity to meet the situation is the dominant theme of Herr Lennhoff's book. The bookish and patriotic chancellor could not match Nazi ruthlessness and military preparation with reason and love of country. He trusted the wrong men who betrayed him and was unable to take the definitive stand that might have saved Austria years before.

Lennhoff tells the story of the death throes with all the drama of an inspired playwright — an author whose memories are too fresh, however, to permit a considered discussion. The book does have the value of telling the story of Austria's fall the first time. It is vivid, authoritative, simple and bitter.

JAPAN IN CHINA

BY T. A. BISSON

417 pages . . . New York: The Macmillan Company

T. A. Bisson, Far Eastern expert of the Foreign Policy Association, has written the most penetrating and authoritative account that has appeared to date on the background and early phases of the war in China. As a resume of events and policies of the past five years the book is a valuable contribution to the analytical study of the conflict. Mr. Bisson has gathered a wealth of facts and welded them into a series of convincing conclusions.

Japan's drift toward Fascism and China's political unification, Mr. Bisson considers the two most momentous phases of contemporary Far Eastern history. This Chinese nationalism which helped draw down upon China the wrath of Japan, found its roots in the student movement, gained momentum with the surrender of the South China militarists to Chiang Kai-Shek and culminated at Sian in the United Front.

The author is obviously more at home in the study of Japanese affairs than upon the China scene. His account of internal Japanese politics is excellent and is the basis for his conclusion as to war guilt. In his considered opinion, the Japanese militarists alone are responsible. Discredited in the attempts to fasten Fascism upon the people, the military clique plunged Japan into a foreign war in a desperate bid to strengthen their slipping power.

The actual story of the war is of vital importance arising from a detailed study of the incident at Lukowchiao. Mr. Bisson makes no predictions but gives the impression that he holds ultimate victory highly probable. The calamity of Japanese victory is powerfully analysed in a chapter on the subjugation of Manchuria — a damning verdict against Nipponese imperialism.

CHINA FIGHTS FOR HER LIFE

BY H. R. EKINS AND THEON WRIGHT

335 pages . . . New York: Whittlesey House, McGraw-Hill

One of the first books published since the outbreak of the Sino-Japanese War, designed and written in the light of that conflict, is the work of two Far Eastern correspondents of the United Press. Frankly not intended to be a scholarly historical study, the book is an extremely readable piece, written as newspapermen would be expected to write the story of what is going on in China. The story of the war itself is of minor importance to the picture of China's struggle for national unity, which the authors have picked up beginning with the Revolution of 1911. The greater part of the book is devoted to the background of the present situation, a background through which Chiang Kai-shek moves as an ever-increasing figure. The attempt to explain recent Chinese history in terms of one man is, however, a little too simple and, as Nathaniel Peffer points out, misleading.

At least twice in his rise to power, Chiang Kai-shek ran afoul of Japanese interests. Both times he was forced to back down, with resultant loss of face both at home and abroad. Unity in China being the last thing Japan desired, a conflict was inevitable sooner or later. Even Asia is not large enough for two strong empires. Chiang bowed to superior force, but he was only biding his time until he was strong enough to strike back. In a few more years he would have been ready.

The Sian coup of December 1936, shocked Japan into a realization that time was getting short. The unexpected display of Chinese solidarity indicated that Chinese national unity had progressed farther than the world had realized, while it was self-evident that the Kuomintang-Communist settlement could only have an anti-Japanese foundation. Realizing that a strong China meant the end of her dream of Asiatic hegemony, Japan struck while there was yet time. The war that followed is as much a Japanese fight for life as it is Chinese. A Japanese victory means reduction of China to Nipponese vassalage, while defeat will topple Japan from her status as a world power.

Both events and personalities have been vividly portrayed. The authors have avoided the pitfalls of myriad unpronounceable Chinese names by a series of pithy and skillful character sketches. The result is just what the doctor ordered for the ordinary reader who is more than casually interested in what he sees in the headlines.

CHINA FIGHTS BACK

BY AGNES SMEDLEY

282 pages . . . New York: The Vanguard Press

Years before she ever saw the Chinese Red Armies, Agnes Smedley was enthusiastically recording their exploits. Her very enthusiasm long denied her the privilege of visiting the Chinese Soviets by attracting the attention and close observation of the Chinese Central Government. In 1936, however, she entered the Communist districts in the Northwest, where she has remained most of the time since.

At the outbreak of the present Sino-Japanese conflict, Miss Smedley, in spite of an injured spine, accompanied the Eighth Route Army into Shansi Province, where she shared the hardships and adventures of the first guerrilla campaign against

the Japanese. Constantly on the move, suffering from exhaustion and her injury, she wrote when and where she could, posting her dispatches piece by piece. Thus her story grew, as it is here published with little more than necessary structural editing.

China Fights Back is a vivid, first-hand account of the early days of the North China War to the beginning of 1938. Of little military value, the real worth of the book lies in its graphic picture of the relations between the peasants and the Eighth Route Army. On that relationship hinges much of the future development of the Chinese nation.

Miss Smedley is a personal friend of Chu Teh, Mao Tse-tung, Chou En-lai, and all the other famous leaders of Chinese Communism. Her book contains many true life portraits of these men. But Miss Smedley unconsciously paints someone else as the most interesting personality in the book — herself. Bitter, atheistic, and belligerent, she is leaving her mark on the history of China — the new China which she does not expect to live long enough to see. One may disagree with her social and political philosophy, but never with her sincerity. A most unusual book.

AND SO TO WAR

BY HUBERT HERRING

178 pages . . . New Haven: Yale University Press

Professor Raymond J. Sontag of Princeton, reviewing this book for the *Saturday Review of Literature*, wrote that Dr. Tansill's book took ten years to write, Mr. Herring's apparently as many days, yet both reached the same conclusion. From 1914 to 1917 the rulers of America betrayed the interests and the wishes of the American people.

Whereas Dr. Tansill confines himself to the background of our entrance into the Great War, Mr. Herring uses the World War merely as a stepping stone to present conditions. His thesis, obviously and frankly partisan, holds collective security to be a dangerous futility and strict neutrality the only way to keep out of quarrels which we can neither understand nor solve. He fears that President Roosevelt and Cordell Hull are about to repeat the mistake of Wilson and Lansing.

Neutrality, as distinguished from isolation, is more likely to help the country and the world than participation in future wars. Mr. Herring wishes the United States to keep out of European and Asiatic wars in which essential interests are not involved and to steer clear of alliances cooked up by nations intent upon preserving the status quo against "have not" countries.

Since 1919 the nation has resisted constantly increasing pressure to join agencies whose ideals have been distorted into attempts to enforce the Versailles Treaty. In spite of repeated refusals to become involved in foreign entanglements, the country is still confronted with persistent pressure. This book is the case for the other side, briefly but convincingly presented. Whether the reader agrees with the author or not, he will find these pages provocative.

AMERICA GOES TO WAR

BY CHARLES CALLAN TANSILL

730 pages . . . Boston: Little, Brown & Company

After ten years of exhaustive research, during which he had access to sources hardly touched by previous historians, Dr.

Tansill has produced what is generally acclaimed as the outstanding study of the background of America's entry into the World War. His material includes the Bryan manuscripts, the papers of Wilson, Root, Colonel House, Lansing, and Knox, as well as the Admiralty archives of Germany and the files of the Nye Committee which investigated war profiteering.

Dr. Tansill disagrees with the popularly held opinions of Bryan, Lansing, House, and other statesmen of the war period. The often ridiculed William Jennings Bryan, who resigned his portfolio as Secretary of State in protest against America's course, is his hero. He feels that had Wilson taken Bryan's advice the United States would have been spared the sacrifices of 1917-18. Conversely, the villains of the piece are House and Lansing, who led the President into war.

House is particularly vilified, while Lansing is tarred as a glorified "stooge" who valued his position above his conscience. While Dr. Tansill has praise for some of Lansing's actions, he sees no good in Wilson's roving adviser. Nor do the foreign diplomats in Washington fare any too well — Count Bernstorff appears in the most favorable light of all.

Chapters on American trade with the Allies, complete with masses of statistics, give a comprehensive view of the economic picture, although the author does not concur with the efforts of the Nye Committee to prove that Big Business drove the nation into war to protect its enormous investments. It is possible, he admits, that Wilson responded in part to pressure, but there is no evidence of it. The 730-page work, while it does not dispose of many questions, is an indispensable guide to the study of our entrance into war which will become standard reference for many years.

Dr. Tansill, recent Professor of American History and Dean of the Graduate School of American University, Washington, D.C., has been a recognized authority on American diplomatic history for many years. For ten years he was advisor to the Chairman of the Senate Foreign Relations Committee, for whom he wrote the report on World War responsibility. He has lectured in his field at Johns Hopkins and in several German universities.

ACTION AT AQUILA

BY HERVEY ALLEN

369 pages . . . Maps . . . New York: Farrar & Rinehart, Inc.

Hervey Allen's first novel since his monumental *Anthony Adverse* is in striking contrast to his earlier and more lengthy work, having, however, the same basic attribute of careful historical research. Instead of the broad, ever shifting arena of *Adverse*, this novel of the Civil War is concentrated in both time and place, with comparative economy of characterization — an economy happily confined only to quantity.

Youthful Colonel Franklin, commander of a Union cavalry regiment on outpost duty guarding the passes through the Virginia mountains, trains his regiment in its beautiful and peaceful station, meanwhile procrastinating over an unpleasant duty. In a nearby hidden valley a lovely southern gentlewoman lives bravely with her daughter, waiting for word from her husband, a major in the Confederate service.

Franklin, in love with her, cannot bring himself to the task before him, that of telling her that her husband is dead. It is this frustration that paces the romance of the story against a

background of impending conflict and the futility of war. Meanwhile the young officer does his best to lighten the burden of the refugees.

Into the peaceful isolation war finally comes in the early winter of 1864 when a Confederate force tries to break through the passes. In a vividly recreated battle sequence, Franklin's regiment is wrecked in a rather useless engagement which ends with a Confederate defeat at losses hardly worth the price. Thereafter the war moves on, leaving a badly wounded officer locked with his refugees in the snowbound valley. Through long, white winter the tangled skein is straightened.

The novel, carefully and colorfully written, is good reading but not as profound as it is claimed to be. An interesting factor in its preparation is the historical research behind it. According to Mr. Allen, most of the tale is true, the story having been pieced together at first hand, often from the lips of those who participated in the events.

THE LIFE OF ANDREW JACKSON

BY MARQUIS JAMES

972 pages, with notes, index & bibliography . . . New York: Bobbs-Merrill

The selection of Marquis James' excellent life of Old Hickory as the Pulitzer Prize winning biography for 1938 was no surprise to those who have read the two volumes issued four years apart. The present edition, combining both volumes in one, should be an imperative item in every library. Mr. James has amply earned his laurels with a truly monumental work — a life history that stands head and shoulders above the considerable mass of excellent writing that has already appeared about Andrew Jackson.

In *The Border Captain*, published in 1933, Mr. James carried the story of Jackson from the early pioneer days before the Revolution through his rise to prominence in Tennessee to the laurels of New Orleans and the Florida controversy. Jackson, who has been too prominently portrayed as an uncouth, frontier democrat was here shown as he really was — a striking and impulsive personality, but for all his fire a gentleman and a conservative who knew the niceties of society and who stood for order and moderation in government.

The recently issued second volume, *Portrait of a President*, has not let the earlier work down. Mr. James has not only sustained but has heightened the pitch as, capturing the mood of Jackson's retirement from public life in 1821, he reviews his career in the national political arena, describing and analyzing the actions and the forces with which Andrew Jackson created an era in American history.

Remarkable as a life story, the work is equally striking as a piece of history. Not content with revealing a man, the biography recreates an epoch, coloring and enriching that period with all the detail that fills out the bare bones. Which perhaps is not surprising, since Andrew Jackson and his era are inseparable.

A magnificent and painstaking study of a great man, *The Life of Andrew Jackson* sets a new mark of biographical excellence. The publishers have recognized its worth with an attractively constructed volume.

ROOSEVELT. A STUDY IN FORTUNE AND POWER

BY EMIL LUDWIG

(Translated from the German by Maurice Samuel)

350 pages . . . New York: The Viking Press

Emil Ludwig, renowned biographer of Napoleon, Bismarck, and Goethe, has applied his psychological technique to the study of a world figure at the height of his activity. His life of President Roosevelt, studded with typical Ludwig brilliance, is interesting reading but will never rank as a definite life history of the present American Executive.

In the first place, Ludwig is cheerfully and frankly snowed under by the celebrated Roosevelt charm. What is more important, he has a profound ignorance of American history and politics, without which no writer can produce an adequate picture of our public life. At the same time, the author's freedom from the prejudices of our life and environment is in a unique position to make some candid and revealing comparisons.

Arranged in three sections, labelled "Fortune," "Metamorphosis," and "Power," the book presents a theme of transition through suffering. Young Franklin D. Roosevelt was a clever, socially conscious aristocrat so favored by fortune that he never had to develop his latent talents. Struck down in the prime of life, he fought a grim struggle for health and emerged with the temper and the desire to champion the underprivileged. He deserted his class to help those who did not have his advantages.

Perhaps the best passage in the book is Ludwig's description of the atmosphere of the Executive offices. There is also a comparison between the first five months of Roosevelt and Hitler that is excellent. The sugar-coated hero worship of this book will handicap its popularity, while many minor errors of facts mar its historical value. Approach this biography with the proper suspicion and you may find it interesting if not authentic.

TARNISHED WARRIOR

BY MAJOR JAMES R. JACOBS

380 pages . . . New York: The Macmillan Company

Several years ago Gamaliel Bradford gained considerable success and established a biographical precedent with his crusade to cleanse some of the stain from history's accepted villains. Major Jacobs follows the trail blazed by *Damaged Souls*, but fails to achieve equal results in this biography of Major General James Wilkinson. The fault, however, lies neither with the author nor his effort. Whitewashing James Wilkinson is simply too big a job.

James Wilkinson, commanding general of the United States Army and virtual ruler of the Mississippi frontier, was one of the greatest charlatans in American history. For thirty years he utilized his high posts in the interests of Spain, whose highly paid spy he was. Not above selling out either side whenever it suited his pocketbook, he covered his tracks so well that a hundred years passed before the full measure of his villainy was revealed.

From the beginning of his military and political career during the Revolution, he displayed the peculiar talents which brought him to the top. Charming and indispensable when work was light, he always managed to be conveniently elsewhere

when danger threatened. His sponsors and friends exemplify the familiar axiom of birds of a feather — Benedict Arnold, Charles Gates, St. Clair — sponsors whom he promptly betrayed when it behooved him.

Wilkinson participated in every major conspiracy of early American history, from the Conway Cabal to the Burr Conspiracy. In each one he escaped punishment by betrayal at the proper time. It took the War of 1812 to show his true ability, or lack of it, yet even then he talked his way out of his just deserts.

Major Jacobs has written a careful but unconvincing story of Wilkinson. Unable, in the interests of truth, to justify his subject, he was apparently reluctant to throw him to the wolves. The resultant, middle-of-the-road study leaves Wilkinson a colorless as well as an unprepossessing rogue. Major Jacobs' self-appointed task was just too heavy. The tarnish on Wilkinson's name is too deep and too tough to be removed.

JAMES MADISON: BUILDER

BY ABBOTT E. SMITH

New York: Wilson-Erickson

In a "new estimate of a memorable career" to quote its subtitle, a highly significant impression is here created of the fourth President of the United States. James Madison has suffered from the one phase of his life for which he was not fitted, but his faults as a war time President are herein belittled in the light of earlier and more enduring work. As a master builder of the Constitution, Madison emerges as a striking and colorful figure.

Two men are largely responsible for the ratification of the Constitution. James Madison and Alexander Hamilton teamed to build the compromise framework of our fundamental law, performed yeoman work in the ratification struggle through the pages of the classic *Federalist*, then parted company on the interpretation of the new law. An important phase of this book is a clear analysis of that collaboration and split.

Hamilton's attempt to make the Constitution do what he wanted was based upon a policy designed to overthrow the power of the agricultural South. Madison was a southerner — a Virginia planter and landed proprietor and a representative of the threatened class. He saw the issue and broke with Hamilton to join forces with Jefferson for states rights and agrarianism.

Ultimately he failed, but his earlier work endured. A scholar, a man of integrity, and a statesman, Madison was small only in physical stature. The biographer has done a service to American history by retouching the picture of the fleeing President of 1814 to its true color as a character of real significance and life.

GEORGE MASON: CONSTITUTIONALIST

BY HELEN HILL

300 pages . . . Cambridge: Harvard University Press

Of all that selected group who wrangled their way through the stifling Philadelphia summer of 1787 to end up with the document known as the Constitution of the United States, George Mason has been the most neglected. In a century and

a half only two biographies of the Virginian have been written, of which this is the second. The first appeared fifty years ago.

George Mason was an unusual man, with a curious mixture of abilities and limitations. One of the finest minds of his generation, Mason was a pompous recluse who detested politics and public life, yet in the confines of his parochial work he was capable of thinking on a national scale. The hurly-burly of legislative chambers made him ill, yet no council or committee had a keener mind.

Mason's political activity was confined to the Virginia Convention of 1775 and the Philadelphia Convention of 1787, yet his work in those assemblies carried far. He was one of the first to advocate a Continental Congress, although he refused to sit in it, and he wrote the Virginia Bill of Rights, which helped influence not only our Declaration of Independence but the revolutionary thought of Europe. The Virginia State Constitution, a model of its kind, was his work, as were the first ten amendments to the Federal Constitution.

After helping frame the Constitution, Mason opposed its ratification, largely upon grounds that later experience proved right. As a result of his objections the first amendments were incorporated, while the issue of slavery ultimately bore out his ideas in the matter.

Miss Hill's life of Mason is not too long, is accurate, and well constructed. She presents a man whose contributions to our nationality are worth knowing.

ROGER SHERMAN: SIGNER AND STATESMAN

BY ROGER S. BOARDMAN

360 pages . . . Philadelphia: University of Pennsylvania Press

The man who signed the Declaration of Rights, Declaration of Independence, Articles of Confederation, and the Constitution deserves a high place in American history. Yet such are the vagaries of fame that Roger Sherman of Connecticut, the only man to affix his signature upon all four fundamental documents of American nationality, has been well nigh forgotten. Mr. Boardman's biography effectively rescues this influential and active "founding father" from a century of unmerited obscurity.

Sherman's beginnings were humble enough to satisfy any success story. Born on a colonial farm he earned his early living as a shoemaker. In an age notorious for its intellectual poverty, he educated himself and became, in order, a successful storekeeper, surveyor, publisher, and lawyer. Then he turned to public affairs and served conspicuously as a member of the colonial legislature, on the highest court of Connecticut and as treasurer of Yale College.

At the outbreak of the Revolution, Roger Sherman went into the Continental Congress for the duration of the war, where he sat on the committees that drafted the Declaration of Rights and of Independence and the Articles of Confederation. After the war he resumed his Connecticut offices, to which was added the post of Mayor of New Haven.

The year 1787 found the dour Puritan in the Constitutional Convention, where his moderation and common sense saved more than one heated session. Having signed the Constitution, Sherman fought for its ratification and then represented his state in the House of Representatives and later in the Senate.

Mr. Boardman's generally excellent life of his illustrious ancestor may be forgiven a certain awe in the presence of the selfrighteous old statesman. It is a readable contribution to Revolutionary history which rescues a deserving but hitherto neglected figure.

LABOR ON THE MARCH

BY EDWARD LEVINSON

335 pages . . . New York: Harper and Brothers

One of the most amazing phenomena of contemporary America has been the rise of the C. I. O. and the resulting schism in the ranks of labor, just when labor appeared to be coming into its own. The bitterness generated by that split has colored the viewpoint of all observers, be they C. I. O. sympathizers, A. F. of L. adherents, or perplexed bystanders who catch the full sound and fury of battle from both sides.

Mr. Levinson has kept his head in the full strength of the storm. An open partisan of the C. I. O., he has written an admirably restrained and careful story of recent labor history. Anyone who cares to read will learn much from his tolerant and balanced defense of the C. I. O.

First premise of the author is that the C. I. O. is more sinned against than sinning. At any rate it is hardly the revolutionary ogre its enemies have painted it. The movement has sponsored some pretty rough stuff, but American labor has fought more destructively in the past with less results.

John L. Lewis is adequately defended against the charges of Communism and 1940 Presidential aspirations. Lewis believes in capitalism, balanced by a strong labor front; he knows there are Reds in his unions but sees no more reason to smother them out than to impose political qualifications for union membership. And lastly, Mr. Lewis does not care to be President — not now, anyway.

Labor on the March is a solid piece of capable writing. Any one interested in the labor movement — a field army officer — are prone to disregard — will profit by this book. So will the C. I. O.

THE POLITICOS, 1865-1896

BY MATTHEW JOSEPHSON

760 pages . . . New York: Harcourt, Brace & Co.

Matthew Josephson is one of the outstanding Socialists writers in the United States today, a fact which should not be overlooked in reading this volume. At the same time he is a careful historian and a colorful, forceful author with a knack for story telling. Whatever his social theories — and he uses this book as a vehicle for his philosophy — Mr. Josephson has written one of the best accounts of our political history from the Civil War to the Bryan revolt.

A few years ago, Mr. Josephson published *The Robber Barons*, a story of the rise of Big Business and its masters after 1865. The success of these amazing financial pirates was but one side of a particularly sordid period in American history. *The Politicos* completes the picture of the American social scene and becomes a companion work to *The Robber Barons*. Both are excellent reading.

The Politicos were the politicians — the professional, key men of American politics — who united with the unscrupulous financiers to get a strangle hold on the wealth and the government of the reunited states. They were a thoroughly unsavory lot, and Mr. Josephson spares nothing in painting them so. At the same time he has little use for the men who fought them, for to him the reformers were small men who didn't really mean what they did and said.

All the presidents from Johnson through Garfield suffer at his hands. Arthur he calls the "most effective President since Lincoln," but he has an unflattering opinion of Cleveland. The story of the rise of the Populist movement occupies a large portion of the book and is a notable study of class struggle. Except for an inconsistent habit of setting up irrevocable laws and then criticizing his subjects for reacting to those very laws, this book is an effective addition to a neglected period of our history.

THE BIG FOUR

BY OSCAR LEWIS

418 pages . . . New York: Alfred A. Knopf

In the decade before the Civil War, young Theodore D. Judah made such a nuisance of himself, talking incessantly about a transcontinental railroad, that his California associates thought him slightly balmy. His persuasiveness was not lost on four Sacramento shopkeepers, however, with the result that Judah's dream became a reality and the Sacramento quartet became the most powerful financial and political figures on the Pacific Coast. The story of the rise of Mark Hopkins, Charles Crocker, Collis Huntington, Leland Stanford, and the railroad empire they built is the burden of one of the most absorbing books of the summer season.

Judah died before his vision had come true and therefore never received any of his deserved credit. The four unemotional but eminently practical merchants got all of that. Not that they didn't deserve a lion's share, for they did build the railroad, overcoming incredible obstacles to do it. The story of that building and the great monopoly into which it grew makes delightful reading.

Four more different personalities would be hard to find. There was Crocker, the florid man of action, who drove his work crews through the mountains and then promptly lost interest in the completed task. Leland Stanford was the "stuffed shirt" of the team, the front for the railroad and its

manipulations as Governor of California, President of the Central Pacific, and United States Senator.

Quiet, frugal Mark Hopkins had little use for wealth and never knew how to spend his money, but as Treasurer of the Central Pacific he nursed its slender funds into great fortunes for himself and his associates. Brains of the four belonged to old Collis Huntington, the shrewd and cynical manipulator with "no more soul than a shark."

Mr. Lewis gilds no lilies for his subjects. They were often dishonest and he plainly says so, but he gives the impression of a sneaking admiration for the old fellows, especially Huntington. He has written an interesting and colorful book.

READING COURSE FOR OFFICERS

War Department Bulletin, 1928

List of selected books relating to historical, political, economic, and military subjects, published for the information of the service.

This list is divided into sections corresponding to the several periods of an officer's service. Remaining sections will appear in future editions of the Quarterly. (For First Period, see the June 1938 Quarterly, page 142.)

SECOND PERIOD (AVERAGE FIVE YEARS)

(INTERVAL BETWEEN COMPANY OFFICERS' COURSE AND ADVANCED COURSE)

- NAPOLÉON'S MAXIMS OF WAR WITH NOTES BY GENERAL BURNOD. 1 vol. (George d'Aguilar)
 BATTLE STUDIES; ANCIENT AND MODERN BATTLE. 1 vol. (Charles J.J.J. Ardant du Picq. Translation by Col. John M. Greely and Maj. R.C. Cotton)
 AMERICAN GOVERNMENT AND POLITICS. 1 vol. (Charles A. Beard)
 PARTY BATTLES OF THE JACKSON ERA. 1 vol. (Claude G. Bowers)
 A HISTORY OF THE GREAT WAR. 4 vols. (John Buchan)
 HISTORY OF THE UNITED STATES. 5 vols. (Edward Channing)
 ALEXANDER. 2 vols. (Theodore A. Dodge)
 CAESAR. 1 vol. (Theodore A. Dodge)
 GUSTAVUS ADOLPHUS. 1 vol. (Theodore A. Dodge)
 HANNIBAL. 2 vols. (Theodore A. Dodge)
 THE CRITICAL PERIOD OF AMERICAN HISTORY, 1783-1789. 1 vol. (John Fiske)
 A CYCLE OF ADAMS LETTERS, 1861-1865. 2 vols. (Worthington C. Ford)
 NAPOLEON THE FIRST. 2 vols. (August Fournier. Translated by Annie E. Adams)
 A SHORT HISTORY OF THE ENGLISH PEOPLE. 1 vol. (John R. Green)
 TWENTY-FIVE YEARS, 1892-1916. 2 vols. (Sir Edward Grey)
 THE OPERATIONS OF WAR. 1 vol. (Sir Edward B. Hamley)
 THE VIRGINIA CAMPAIGN OF '64 and '65. 1 vol. (Andrew A. Humphreys)
 HISTORY OF FRANCE. 3 vols. (George W. Kitchen)
 A GREATER THAN NAPOLEON. 1 vol. (Basil H. Liddell Hart)
 GEORGE WASHINGTON. 2 vols. (Henry C. Lodge)
 LIFE OF ANDREW JACKSON. 3 vols. (James Parton)
 LIFE AND TIMES OF BENJAMIN FRANKLIN. 2 vols. (James Parton)
 HISTORY OF THE AMERICAN FRONTIER, 1763-1893. 1 vol. (Frederic L. Paxton)
 FINAL REPORT OF GENERAL J.J. PERSHING. 1 vol. (Gen. J.J. Pershing) (War Dept.)
 FROM PRIVATE TO FIELD MARSHAL. (Sir William Robertson)
 MEMOIRS OF GENERAL WILLIAM T. SHERMAN. 2 vols. (William T. Sherman)
 THE WAR WITH MEXICO. 2 vols. (Justin H. Smith)
 THE MILITARY POLICY OF THE UNITED STATES. 1 vol. (Emory Upton) (War Dept.)
 THE PHILIPPINES, PAST AND PRESENT. 2 vols. (Dean C. Worcester)
 FREDERICK THE GREAT. 1 vol. (Norwood Young)

Lest We Forget

THE UNITED STATES ARMY DURING THE WORLD WAR

On 11 November 1938, we commemorate the 20th anniversary of the World War Armistice, which ended the greatest war that the world had ever witnessed. Marshal Foch's telegram announcing it read as follows:

"Hostilities will be stopped on the entire front beginning at 11:00 AM November 11th (French time). The allied troops will not go beyond the lines reached at that hour on that date until further orders."

When war was declared there were only 200,000 men in the United States Army. Two-thirds of these were regulars and one-third National Guardsmen who had been called to Federal Service for duty along the Mexican border. The Army had on hand nearly 600,000 Springfield rifles. The use of machine guns on a large scale is a development of the World War. In the American Army, the allowance in 1912 was only four machine guns per regiment. When war was declared there was only light artillery sufficient to equip an army of 500,000 men. Tanks, we had none. We had 55 training airplanes, of which 51 were classified as obsolete and the other 4 as obsolescent.

When the war ended, the Regular Army had been increased to twenty times its original size. Four million men served in the Army, of which 2,084,000 reached France. Two out of three of this number saw active service at the front. There were 200,000 officers, or one officer for each 20 men. Forty-two divisions were sent to France, each division consisting of about 1,000 officers and 27,000 men. Of this number, 29 took part in active combat service. In St. Mihiel alone, 550,000 Americans were engaged; the artillery fired over 1,000,000 shells in four hours—the most intense artillery concentration recorded in history. The manufacture of rifles was expedited, the American Enfield rifle was designed and put into production, so that the total production of both types of rifles had reached over 2,500,000 by the time the Armistice was signed. The Browning automatic rifle and the Browning machine gun were developed during the war, put into quantity production and used in large numbers in the final battles in France. The artillery shortage was solved by using our guns for training purposes, and equipping our forces in France with artillery conforming to the French and British standard calibers. In round numbers, we had in France 3,500 pieces of artillery, of which nearly 500 were made in America.

The production of the 12-cylinder Liberty engine was America's chief contribution to aviation. The total personnel of the Air Service increased from 1,200 at the outbreak of the war to nearly 200,000 at its conclusion. American air squadrons played important roles at Chateau-Thierry, St. Mihiel and the Meuse-Argonne, and brought down, in combat, 755 enemy planes while suffering a loss of only 357.

At the end of the war, American production of smokeless powder was 45 per cent greater than the French and British production combined, while the production of high explosives was 40 per cent greater than Great Britain's and nearly double that of France.

America can be well proud of its Army. The achievements of the A.E.F. in France have been very briefly stated by General Pershing, as follows:

"Between September 26th and November 11th, twenty-two American and six French divisions, with an approximate fighting strength of 500,000 men, on a front extending from southeast of Verdun to the Argonne Forest, had engaged and decisively beaten forty-three different German divisions, with an estimated fighting strength of 470,000. Of the twenty-two American divisions, four had at different times during this period been in action on fronts other than our own.

"The enemy suffered an estimated loss of over 100,000 casualties in this battle and the First Army about 117,000. The total strength of the First Army, including 135,000 French troops, reached 1,031,000 men. It captured 26,000 prisoners, 874 cannon, 3,000 machine guns and large quantities of material.

"The transportation and supply of divisions to and from our front during this battle was a gigantic task. There were twenty-six American and seven French divisions, besides hundreds of thousands of corps and army troops, moving in and out of the American zone. A total of 173,000 men were evacuated to the rear and more than 100,000 replacements were received.

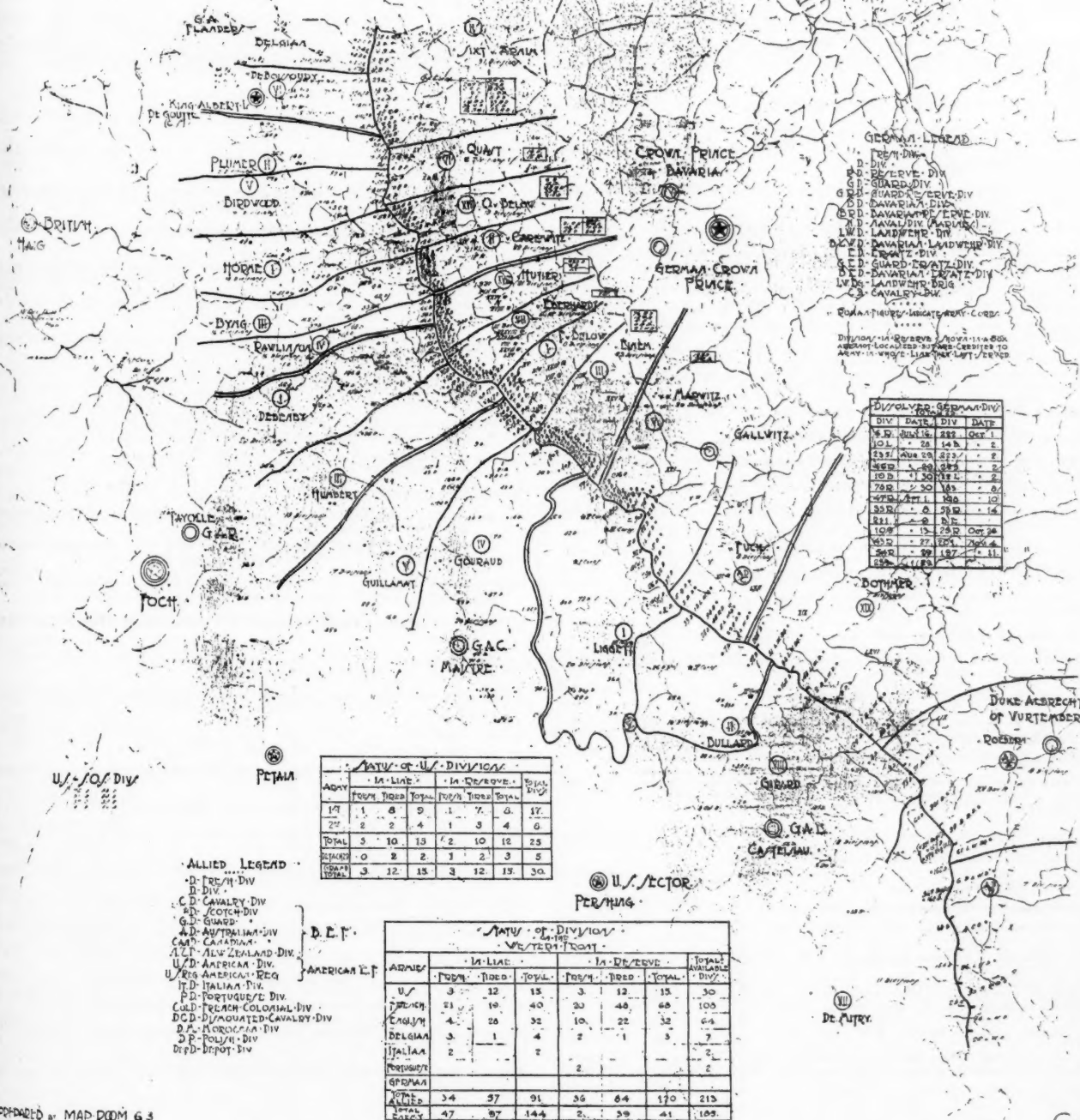
"It need hardly be restated that our entry into the war gave the Allies the preponderance of force vitally necessary to outweigh the tremendous increase in the strength of the Germans on the Western Front, due to the collapse of Russia and the consequent release of German divisions employed against her. From the military point of view, we began to aid the Allies early in 1918, when our divisions with insufficient training to take an active part in battle were sent to the inactive front to relieve French divisions, in order that they might be used where needed in the fighting line.

"The assistance we gave the Allies in combat began in May with the successful attack of one of our divisions at Cantigny. This was followed early in June by the entrance into battle of the two divisions that stopped the German advance on Paris near Chateau-Thierry, and by three others that were put in the defensive line. In July two American divisions, with one Moroccan division, formed the spearhead of the counterattack against the Chateau-Thierry salient, in which nine of our divisions participated. There was a total of approximately 300,000 American troops engaged in the Second Battle of the Marne, which involved very severe fighting, and was not completed until the Germans were driven beyond the Vesle in August. In the middle of September an army of 550,000 Americans reduced the St. Mihiel salient. The latter part of September our great battle of the Meuse-Argonne was begun, lasting through forty-seven days of intense fighting and ending brilliantly for our First and Second Armies on November 11th, after more than 1,200,000 American soldiers had participated."

On the twentieth Anniversary of the Armistice, it seems proper to recall some of the Army's accomplishments in that great emergency, "Lest We Forget."

ORDER OF BATTLE ON WESTERN FRONT

11 A.M., Nov. 11, 1918



Library Bulletin

BOOKS ADDED TO THE LIBRARY SINCE JUNE 1938

Academy of Political Science:

The foreign policy of the United States. (Proceedings of the Academy of Political Science, May 1937). 1937 [327.73]

Transportation development in the United States. (Proceedings of the Academy of Political Science, January 1937). 1937 [385.73]

American Academy of Political & Social Science:

The prospect for youth. (The Annals, November 1937). 1937 [301.15]

Revival of depressed industries. (The Annals, September 1937). 1937 [331]

Bartlett, Vernon. — **Intermission in Europe.** The life of a journalist and broadcaster. 1938 [M 940-A]

Britannica book of the year, 1938. A record of the march of events of 1937. 1937 [032]

Britt, Albert. — **Great Indian Chiefs.** A study of Indian leaders in the two hundred year struggle to stop the white advance. 1938 [M 973-Q1-B920]

Burnett, W.R. — **The Dark Command.** 1938 [978.1]

Carl, Sister M. Hildalita. — **Kansas history as seen in the works of Margaret Hill McCarter.** 1938 [978.1]

Carl, Sister Mary Tharsilla. — **A survey of Kansas poetry.** 1938 [978.1]

Civilian Military Education Fund. — **Report of proceedings regional R.O.T.C. Conference, Fort McPherson, Ga., October 28-30, 1937.** 1938 [M 308-C.73]

Colin, Captain J. — **The military education of Napoleon.** (Translation from the French by Lt.Col. Richard U. Nicholas, C.E.) 1938 [M 94405-N3C]

Commerce, Department of. — **United States census of agriculture, 1935.** (3 volumes) 1938 [310]

Congress. — **Military establishment appropriation bill for 1938.** Hearings before the subcommittee of the committee on appropriations, House of Representatives, Seventy-Fifth Congress, First Session. 1938 [M 208-C.73-E]

Crow, Carl. — **Master Kung.** The story of Confucius. 1938 [181.1]

Crozier, Brig.Gen. F.P. — **The men I killed.** 1938 [M 008-J4]

von Dellmensingen, Gen. Konrad Krafft. — **Der Durchbruch.** Studie an Hand der Vorgänge des Weltkrieges 1914-1918. [The breakthrough. Studies based on operations in the World War, 1914-1918.] 1937 [M 9403-H3-E2.43]

Deygas, Commandant F.J. — **Les chars d'assaut.** Leur Passé, leur Avenir. [The combat cars: Past and future.] 1937 [M 405-J1-A.44]

Dulles, Foster Rhea. — **Forty years of American-Japanese relations.** 1938 [327.73 (.52)]

Durant, Will. — **The tragedy of Russia; Impressions from a brief visit.** 1933 [947.09]

Duval, General. — **Les Lecons de la Guerre d'Espagne.** [Lessons from the war in Spain.] 1938 [M 946-A]

Edmonds, James E. — **Fighting fools.** 1938 [M 973-A]

Einstein, Albert & Infeld, Leopold. — **The evolution of physics.** The growth of ideas from early concepts to relativity and quanta. 1938 [530]

Ekins, H.R. & Wright, Theon. — **China fights for her life.** 1938 [M 951-A]

Federal Reporter, Second Series. Vol. 94 F. 2d, March-April 1938; Vol. 95, F. 2d, April-May 1938. 1938 [345.41]

Federal Supplement. Vol. 21, December 1937-March 1938. 1938 [345.41]

France, Ministère de la Guerre. — **Instructions for the tactical employment of large units.** (Translation from the French by Lt.Col. Richard U. Nicholas, C.E.) 1937 [M 506-A4.44]

Great Britain. Committee of Imperial Defence. — **Transportation on the Western Front, 1914-1918.** Compiled by Colonel A.M. Henniker. (Official History of the Great War based on official documents.) 1937 [M 9403-H4-K.42-D]

Great Britain. War Office:

Instructions for movement control (Overseas in war). 1938 [M 504-A1.42]

Training regulations, 1934. 1934 [M 506-A7-D9.42]

Hanson, Earl Parker. — **Journey to Manaos.** 1938 [918]

Hebard, Grace Raymond. — **Sacajawes.** A guide and interpreter of the Lewis and Clark Expedition, with an account of the travels of Toussaint Charbonneau, and of Jean Baptiste, the expedition papoose. 1933 [M 973-Q1-B92 (SA)]

Herring, Hubert. — **And so to war.** 1938 [M 003-A]

Hoebel, Captain Ernst. — **M.G. 34.** Seine Verwendung als I.M.G. oder s.M.G. [Machine gun 34. Its use as light machine gun or heavy machine gun.] 1938 [M 614-F7-A.43]

Hughes, E.R. — **The invasion of China by the western world.** 1938 [951-A]

Jackson, J. Hampden. — **The post-war world.** A short political history, 1918-1934. 1938 [M 9403-C5-A]

Johnson, Emory R. — **Government regulation of transportation.** 1938 [380]

Johnson, Thomas M. & Pratt, Fletcher. — **The Lost Battalion.** 1938 [M 9403-H6-C.3, G3-C77C]

Josephson, Matthew. — **The políticos: 1865-1896.** 1938 [973.8]

Klotz, Helmut. — **Les Lecons militaires de la guerre civile en Espagne.** [The military lessons from the civil war in Spain.] 1938 [M 946-A]

Lane, Marie D. & Steegmuller, Francis. — **America on relief.** 1938 [973-A]

Ludwig, Emil. — **Life of President Roosevelt: A study in fortune and power.** 1938 [973-B92 (RO)]

Mead, George H. — **The philosophy of the act.** (Vol. III, "Mind, Self and Society," series.) 1938 [150]

National Advisory Committee for Aeronautics. — **Twenty-third annual report of the National Advisory Committee for Aeronautics, 1937.** 1937 [M 603]

New International Year Book. A compendium of the world's progress for the year 1937. 1938 [031]

Paquet, Major Charles. — **A study on the operation of an intelligence office in the field.** (Translation from the French by Colonel Oliver L. Spaulding.) 1937 [M 505-D3-E.44]

Possony, Stefan Th. — **Die Wehrwirtschaft des totalen Krieges.** [Economics of the war of totality.] 1938 [M 003-A]

Pratt, Fletcher. — **The Navy: A history.** The story of a service in action. 1938 [M 823-C.73-C]

Price, Willard. — **Children of the Rising Sun.** 1938 [952-A]

Reibert, Hauptmann:

Der Dienstunterricht im Heere. Ausgabe für den Reiter. [Training guide for the army. Issued for the cavalryman.] 1937 [M 209-C.43-C]

Der Dienstunterricht im Heere. Ausgabe für den Pionier. [Training guide for the engineers.] 1937 [M 209-C.43-C]

Royal Institute of International Affairs:

International sanctions. A report by a group of members of the Royal Institute of International Affairs. 1938 [327]

The Republics of South America. A report by a study group of members of the Royal Institute of International Affairs. 1937 [980]

Schillfarth, Lt.Col. & Sachs, Major. — **Der Unterfuhrer der Flakartillerie.** [The subordinate leader of the antiaircraft artillery.] 1937 [M 407-J2-A1.43]

Seitz, Don C. — **Braxton Bragg, General of the Confederacy.** 1924 [M 9737-E4-C5, B92 (BR)]

Der Sprach-Brockhaus. Deutsches Bildwörterbuch für jedermann. [Brockhaus terminology. An illustrated dictionary.] 1935 [433]

Statesman's Year Book, 1938. Statistical and historical annual of the states of the world for use year 1938. Edited by M. Epstein. 1938 [310]

Sumner, William Graham. — **Folkways.** A study of the sociological importance of manners, customs, mores and morals. 1907 [390]

Talbot-Booth, Lieut. Commander E.G. — **Fighting planes of the world.** 1938 [M 48-A.42]

Tansill, Charles Callan. — **America goes to war.** 1938 [M 9403-C3-C.73]

Vidal, G. — **Co faut savoir de l'armee Italienne qu'il.** [What must be known about the Italian Army.] 1931 [M 203-C.45]

Wentworth, Lady. — **Thoroughbred racing stock and its ancestors.** The authentic origin of pure blood. 1938 [M 403-G1.42]

White, Trumbull. — **Puerto Rico and its people.** 1938 [972.95]

Who's who in Japan, 1938. With Manchukuo and China. 1938 [952-B920]

Wilbur, Ray Lyman & Hyde, Arthur Mastick. — **The Hoover policies.** 1937 [973-A]

Wolfe, Henry C. — **The German Octopus.** Hitler bids for world power. 1938 [M 943-A]

Wrong, George M. — **The Canadians: The story of a people.** 1938 [971-A]

Young, C. Kuangon. — **The Sino-Japanese conflict and the League of Nations, 1937** [M 951-A]

Young, Eugene J. — **Looking behind the censorships.** 1938 [M 505-E2-C]

ACADEMIC NOTES



Current School Material, Which Affects Instructional Procedure or Tactical Doctrines

BRIGADIER GENERAL C. M. BUNDEL, U. S. Army, *Commandant*
 BRIGADIER GENERAL F. W. HONEYCUTT, U. S. Army, *Assistant Commandant*
 LIEUTENANT COLONEL F. GILBREATH, Cavalry, *Secretary*

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Cleland, Joseph P.	Captain	Infantry	Johnson, Douglas V.	Captain	F.A.
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Ericson, Richard A.	Captain	C.A.C.	Lombard, Stephen C.	Captain	F.A.
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Fickett, Edward M.	Major	Cavalry	Macdonald, John C.	Major	Cavalry
Fisher, Ralph E.	Captain	Air Corps	Marshall, Floyd	Major	Infantry
Ford, Thomas J.	Captain	C.W.S.	Martin, Marlin C.	Major	Infantry
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Funk, Arnold J.	Major	Infantry	McChrystal, Herbert J.	Captain	Infantry
Furuholmen, Bjarne	Captain	F.A.	McClure, Mark	Captain	F.A.
Fye, John H.	Major	F.A.	McCullough, Samuel	Major	C.A.C.
Gaither, Ridgely, Jr.	Captain	Infantry	McKee, Richard G.	Captain	Infantry
Gamble, Claude L.	Captain	Q.M.C.	McQueen, John C.	Captain	U.S.M.C.
Gans, Edgar A.	Captain	Infantry	McReynolds, Wilbur R.	Major	Q.M.C.
Gard, Robert G.	Captain	F.A.	Meloy, Guy S., Jr.	Captain	Infantry
Gardner, John H.	Major	Air Corps	Moffat, Reuben C.	Major	Air Corps
Gardner, John H., Jr.	Major	Sig.C.	Moore, Bryant E.	Major	Infantry
Gibbons, Lloyd H.	Captain	Infantry	Murphy, John B.	Captain	F.A.
Giles, Benjamin F.	Major	Air Corps	Myers, Colby M.	Captain	C.E.
Gilkeson, Adlai H.	Lt.Col.	Air Corps	Newton, George D.	Captain	M.C.
Gillette, Francis E.	Captain	Infantry	Noble, Charles H.	Captain	Cavalry
Gillmore, William N.	Captain	F.A.	Nugent, Richard E.	Captain	Air Corps
Ginn, L. Holmes, Jr.	Captain	M.C.	O'Daniel, John W.	Major	Infantry
Green, James W., Jr.	Captain	Sig.C.	Partridge, Lloyd S.	Major	F.A.
Greiner, Edwin C.	Captain	Cavalry	Peploe, George B.	Captain	Infantry
Griffith, Welborn B., Jr.	Captain	Infantry	Powell, William D.	Major	Infantry
Gross, Mervin E.	Captain	Air Corps	Prather, Richard G.	Captain	Infantry
Hagan, James H.	Major	Infantry	Rall, Staten E.	Captain	Infantry
Haney, Harold	Major	Infantry	Ramsey, Thomas H.	Major	Q.M.C.
Hansell, Haywood S., Jr.	1st Lt.	Air Corps	Reed, Walter J.	Major	Air Corps
Hardin, John R.	Captain	C.E.	Reeves, Andrew R.	Major	F.A.
Hardy, Rosswell E.	Major	O.D.	Reichelderfer, Harry	Major	Sig. C.
Hardy, Wilfrid H.	Captain	Air Corps	Riani, Albert	Captain	C.E.
Harris, Charles S.	Major	C.A.C.	Richardson, William L.	Captain	C.A.C.
Haskell, Louis W.	Captain	F.A.	Ridenour, Carlyle H.	Major	Air Corps
Hayden, Frederic L.	Captain	C.A.C.	Roberts, Thomas A., Jr.	Captain	F.A.
Hedekin, Thomas B.	Captain	F.A.	Rodieck, Leonard H.	Captain	Air Corps
Hegenberger, Albert F.	Major	Air Corps	Rodwell, James S.	Major	Cavalry
Heiberg, Harrison H.D.	Captain	Cavalry	Rogers, Gordon B.	Captain	Cavalry
Henion, Karl E.	Major	Infantry	Rohsenberger, Carl J.	Major	Cavalry
Hensey, Walter R., Jr.	Captain	F.A.	Rothermich, Albert E.	Captain	Infantry

BRANCH	NAME	RANK	BRANCH
Cavalry	Royce, Charles H.	Captain	Infantry
Infantry	Ryan, Cornelius E.	Major	Infantry
C.A.C.	Saville, Gordon P.	Captain	Air Corps
C.E.	Scheiffler, Frederick F.	Captain	C.A.C.
C.E.	Schlatter, David M.	Captain	Air Corps
Air Corps	Schulgen, George F.	Captain	Air Corps
M.C.	Scott, Willard W.	Major	C.A.C.
F.A.	Selee, Richardson	Captain	C.E.
Air Corps	Shoemaker, Raymond L.	Major	Infantry
C.A.C.	Sloane, Charles C., Jr.	Captain	Infantry
Cavalry	Smith, John A., Jr.	Captain	F.A.
A.G.D.	Smith, Joseph	Captain	Air Corps
F.A.	Smith, Robert McK.	Captain	O.D.
Infantry	Smith, Valentine R.	Captain	F.A.
Infantry	Sorley, Merrow E.	Captain	C.E.
Infantry	Spalding, Donald P.	Major	Infantry
F.A.	Stafford, Ben	Major	Infantry
Infantry	Stanley, Thomas H.	Captain	C.E.
Infantry	Stebbins, Albert K., Jr.	Captain	Infantry
F.A.	Stevens, Francis R.	Captain	Infantry
Infantry	Stroh, Claire	Captain	Air Corps
Air Corps	Strother, Kenneth C.	Captain	Infantry
F.A.	Stubblebine, Albert N., Jr.	Captain	Q.M.C.
A.G.D.	Stubbs, Guy H.	Captain	C.A.C.
C.E.	Studebaker, Clayton H.	Captain	F.A.
Infantry	Sullivan, Charles W.	Major	Air Corps
F.A.	Sweany, Kenneth S.	Captain	F.A.
F.A.	Thompson, Ernest B.	Captain	C.A.C.
Infantry	Tibbetts, Ralph E.	Captain	Infantry
Air Corps	Timberlake, Patrick W.	Captain	Air Corps
C.A.C.	Towle, Stewart W., Jr.	Captain	Air Corps
F.A.	Townsend, James R.	Major	C.A.C.
C.A.C.	Triplet, William S.	Captain	Infantry
Infantry	Van Horne, Edwin J.	Captain	Infantry
F.A.	Walton, Charles W.	Major	C.W.S.
Cavalry	Warren, John W.	Captain	Air Corps
Infantry	Weckerling, John	Captain	Infantry
Infantry	Welsh, William W.	Major	Air Corps
F.A.	Weyland, Otto P.	Captain	Air Corps
Infantry	White, Donald G.	Captain	C.E.
Infantry	White, Isaac D.	Captain	Cavalry
F.A.	White, Thomas D.	Captain	Air Corps
C.A.C.	Whitelaw, John L.	Captain	Infantry
Infantry	Whiteley, John F.	Major	Air Corps
U.S.M.C.	Wilders, Pearne C.	Captain	Infantry
Q.M.C.	Wilkinson, Candler A.	Major	Cavalry
Infantry	Willems, John M.	Captain	F.A.
Air Corps	Wiley, John P.	Captain	Cavalry
Infantry	Williams, Edward T.	Captain	F.A.
F.A.	Williams, Laurin L.	Major	Infantry
C.E.	Wilson, Milton E.	Captain	Q.M.C.
M.C.	Wilson, Walter K., Jr.	1st Lt.	C.E.
Cavalry	Wimsatt, Robert W.C.	Captain	Air Corps
Air Corps	Wright, Willard L.	Captain	C.A.C.
Infantry	Yale, Wesley W.	Captain	Cavalry
F.A.	Yeager, Hobart R.	Major	Air Corps
Infantry	Yon, Everett M.	Major	Infantry
Infantry	Yull, Charles W.	Major	Infantry

THE COMMAND AND GENERAL STAFF SCHOOL

Fort Leavenworth, Kansas

1937-1938

Map Problem No. 25

15 March, 1938

This map problem, while different from anything that has been used in the past at The Command and General Staff School, is not entirely new to military instruction. Major John H. Burns, Infantry, has written at length concerning this type of problem in his article *Vitalize the Map Problem*, published in the September-October issue of the *Infantry Journal*.

The problem is one of decision so drawn that it feeds information to the student in the form of summaries every half hour. The solver is required to make a report at the end of each half hour on the actions taken and orders, if any, actually issued by the commander. In this type of problem the solver must decide when he has sufficient information and when the time is ripe for making decisions.

Although this is a corps problem, the scheme it illustrates may be adjusted to exercises involving smaller units.

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SECTION I

Advance Sheet

	Paragraph
General situation.....	1
Special situation.....	2

1. GENERAL SITUATION. — *a. Maps.* — Special Map A, herewith. Scale: 1 inch = 4 miles.

b. Boundaries. — The Pennsylvania — Maryland state line forms the boundary between two hostile states: Blue (north) and Red (south).

c. Opposing forces. — It is known that Red war plans contemplate the concentration of a reinforced corps of two or three divisions in the area between South Mountain and the Susquehanna River.

2. SPECIAL SITUATION. — *a. Concentration.* — (1) *I Corps, reinforced.* — The I Corps, reinforced, Lieutenant General A commanding, consists of the 1st and 2d Divisions, organic corps troops and attached troops as indicated in paragraph 1, Table 1, page 7, *Tables of Organization, C&GSS, 1937*. The I Corps concentrated with the 1st Division in the vicinity of Hanover (374-746), the 2d Division in the vicinity of Gettysburg (350-750), and the corps artillery in the vicinity of Biglerville (349-762). The corps service elements are to concentrate in the area: Lemoyne (380-800) — Carlisle (355-795) — Mt Holly Springs (355-785) — Bowmansville (373-792).

(2) The 3d Division (detached from I Corps) with 903d Cavalry Squadron attached and certain artillery, tank, and motor units concentrated in GHQ reserve in the area shown on Special Map A.

(3) Other Blue forces concentrated in the area east of the Susquehanna River.

b. Mission of the I Corps. — The mission of the I Corps is to invade Red territory and develop the hostile situation west of the Susquehanna River.

c. Events prior to daylight, 15 March. — (1) The I Corps completed its concentration late on 12 March. The 1st Cavalry Brigade, reinforced, protected the concentration. Early on 13 March the I Corps preceded by its cavalry crossed the frontier and advanced to the south; the 1st Division marched on Manchester (384-729); the 2d Division marched on Keymar (350-721).

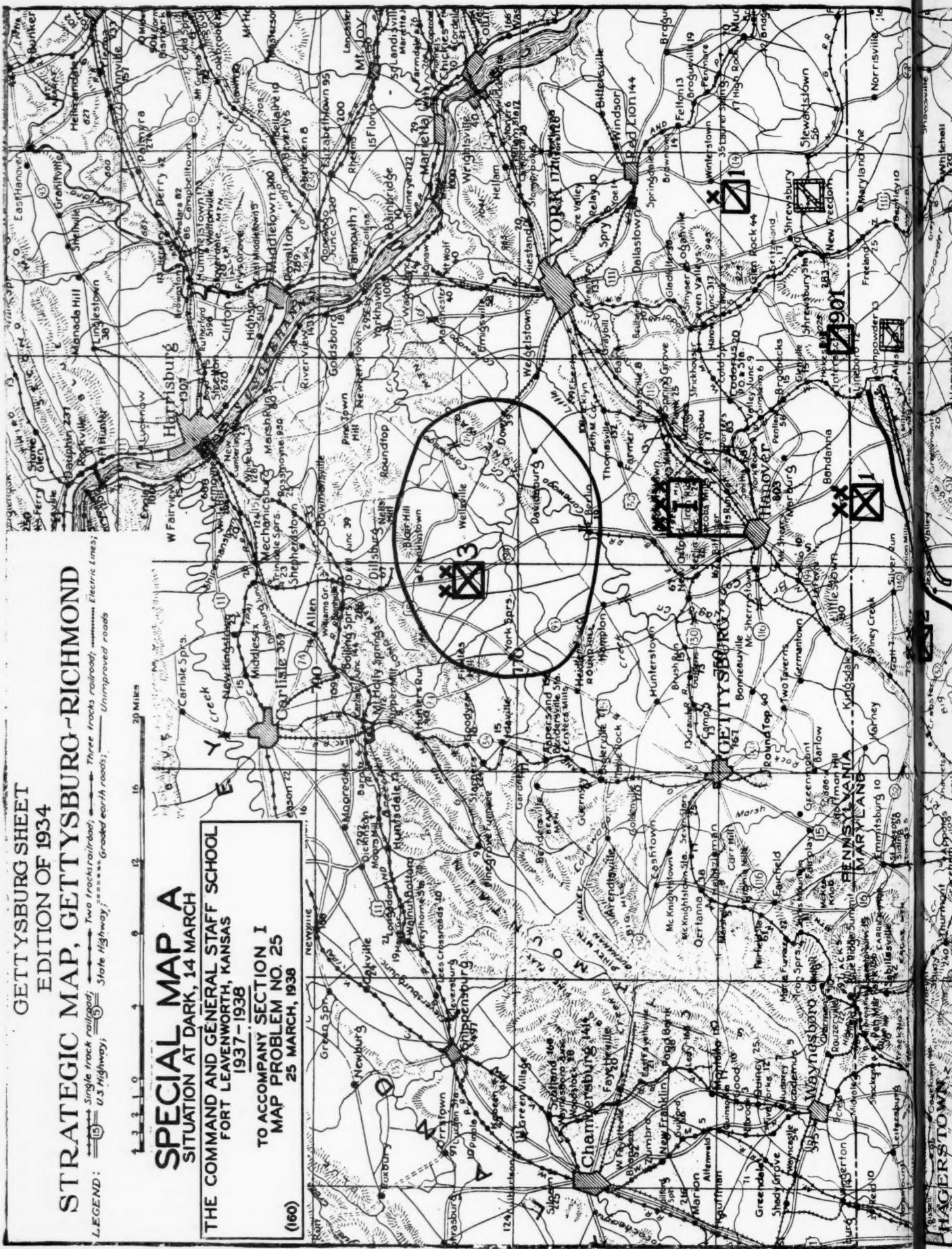
GETTYSBURG SHEET EDITION OF 1934

STRATEGIC MAP, GETTYSBURG-RICHMOND

LEGEND: Single track railroad; Two track railroad; Electric Lines; State Highway; Graded earth roads; Unimproved roads

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Miles

SPECIAL MAP A
SITUATION AT DARK, 14 MARCH
THE COMMAND AND GENERAL STAFF SCHOOL
FORT LEAVENWORTH, KANSAS
1937-1938
TO ACCOMPANY SECTION I
MAP PROBLEM NO. 25
25 MARCH, 1938
(160)





(2) The 1st Division encountered hostile infantry along the line: Silver Run (368-732) — Lineboro (386-736) and attacked late 13 March.

(3) The 2d Division late on the afternoon of 13 March reached the Emmitsburg (341-733) — Taneytown (355-728) road after but slight opposition.

(4) Early 14 March the 1st and 2d Divisions under cover of fog which lasted throughout the day launched a coordinated attack against the hostile force along the line: Silver Run — Lineboro. This attack had considerable success and by dark, 14 March, had driven the hostile force back to the line: Pleasant Valley (367-725) — Ebbvale (378-731) — Gunpowder (388-734).

(5) Early 14 March the 1st Infantry less one battalion was moved to Two Taverns (356-744) in Corps Reserve prepared for movement by motor transport.

(6) The corps field artillery supported the action of the 2d and 1st Divisions.

(7) Early on the morning of 13 March the hostile cavalry penetrated the Blue counterreconnaissance screen in the vicinity of Stewartstown (409-741) and marched on York (397-765). By dark, 14 March, the 1st Cavalry Brigade, reinforced, had driven the hostile cavalry on the east flank back onto a strong position in the vicinity of Shrewsbury (403-742) — Stewartstown.

(8) The 910th Brigade (L of C) reinforced is protecting the lines of communication of the Corps.

(9) *Miscellaneous.* — (a) *Roads.* — All roads shown in solid lines on the Strategic Map are suitable for two-way motor traffic.

(b) *Weather.* — The weather has been cool. A heavy mist has covered the area between South Mountain and the Susquehanna River since 13 March. Forecast at 6:00 PM, 14 March — continued cool turning clear in the late afternoon of 15 March.

(c) *Streams.* — The Susquehanna and Potomac Rivers are unfordable. The Patapsco River is unfordable southeast of its junction (384-692) with North Branch Patapsco River; all other streams are fordable.

SECTION II

Special Situation, Continued

Special situation, continued.....3

Paragraph

3. SPECIAL SITUATION, CONTINUED. — *Events of 15 March.* — The plans for the operations of the I Corps on 15 March provided for a continuation of the attack by the 1st and 2d Divisions and the 1st Cavalry Brigade.

Lieutenant General A at his command post at Hanover spent the early part of the morning of 15 March studying the situation map and the incoming reports.

By 11:00 AM he was aware of the following situation:

On the front of the 1st Cavalry Brigade, the hostile cavalry had been forced to withdraw to the south and at 10:00 AM the 1st Cavalry Brigade had again encountered hostile cavalry resistance along the line: Maryland Line (404-735) — Norrisville (415-734).

On the front of the 1st Division the hostile forces had attacked simultaneously with the attack of the 1st Division. The mist has hampered observation and movement. No gains by either force seem to have been made.

On the front of the 2d Division, the Reds launched a surprise attack at daylight against the right flank of the 2d Division.

This attack was supported by tanks and caught the 2d Division in attack formation. The tenor of the reports and messages from the 2d Division indicates that the Division is in serious difficulty, but in no imminent danger.

Lieutenant General A visited the command post of the 1st Division at Bandanna (376-738) at 11:30 AM where he found the commander and staff greatly disappointed with the results of the morning's battle. The division was reorganizing and preparing to resume the attack at about 3:00 PM. It expected, after reorganization, that two and possibly three battalions could be made available for the new effort. Lieutenant General A visited the command post of the 2d Division at Galt (359-734) at about 12:15 PM. The staff of the 2d Division appeared to be somewhat chagrined by the events of the morning. Messages conflicting, and contradictory reports had been received from the subordinate units. It was almost impossible to gain a complete or clear picture of affairs on that front.

Certain facts were clear however. The attack of the 1st Division had failed, the division had been thrown on the defensive and about noon had been driven back and appeared to be stubbornly defending along the general line: Taneytown — Pleasant Valley. Casualties suffered could not be determined with any degree of accuracy. Major General "2d Division" had just returned from a visit to his brigade commanders who were found reorganizing their forces and strengthening their defenses. Two infantry battalions were in division reserve. The division cavalry opposed by hostile cavalry was protecting the right flank along the creek about two miles northwest of Taneytown. Major General "2d Division," in spite of the reverses of the day, was calm and unworried.

While on these visits Lieutenant General A studied the situation but did not issue any orders. He returned to his command post at Hanover at 1:30 PM in time for the routine daily staff conference.

The Corps Reserve (1st Infantry, less one battalion) at the hour was still at Two Taverns, prepared for movement by motor transport.

NOTES

1. Resumes of information received at the Corps Command Post will be issued at half hour intervals commencing at 1:45 PM and ending at 4:15 PM.
2. In making reports, students will note the requirement carefully and no important order is announced or action taken, the remark "None" will be entered on the report.
3. Be brief, be definite.

SECTION II (Continued)

Special Situation, Continued

Special situation, continued.....

Paragraph

4. SPECIAL SITUATION, CONTINUED. — Upon arrival at his command post at 1:30 PM, Lieutenant General A was met by his Chief of Staff, who presented him with the following message dated GHQ, 15 March, 12:45 PM:

"The force opposed to the I Corps is estimated to be composed of not more than two divisions. Your mission has been changed. You will advance without delay and capture Baltimore. The 3d Division, with sufficient GHQ motor transport to move the essential combat elements of one brigade, reverts to your corps, effective at once."

The daily staff conference was called to order by the Chief of Staff at 1:45 PM. Lieutenant General A, the chiefs of the

general staff sections and certain special staff officers were present. The Chief of Staff briefly outlined the situation as already described above, after which the following reports were made:

Corps G-2 stated: "There is some doubt as to the strength of the hostile forces confronting us. G-2 GHQ inclines to the belief that it is a corps of not more than two divisions. We have identified two divisions. Red deserters claim that four divisions were in the area: Baltimore — Washington about 12 March. Knowing Red Lieutenant General J's reputation for caution and prudence, I cannot understand his attacking us this morning unless he is quite certain that he is superior to us. It is quite possible that General J has been relieved. However, I have no information about this. Of course the hostile commander, General J, might be misinformed as to our strength. I am striving to gain more definite information as to the hostile strength.

Unfortunately, due to the continued fog the air service has been unable to locate the hostile reserves. I estimate that at present they are west of Parrs Ridge favoring the Red's enveloping attack.

As to Red capabilities —

He can continue his attack today.

He can renew his attack tomorrow, enveloping our right flank, or with less ease, our left flank.

He may defend actively or passively northwest of or on Parrs Ridge — Dug Hill Ridge.

He may delay or withdraw."

Corps G-3 stated:

"Since my last report to the Chief of Staff the following information has been received.

From the 1st Cavalry Brigade, dated 11:00 AM — "The hostile cavalry has been driven slowly south to the line: Maryland Line — Norrisville. Am about to attack."

Information has been slow in arriving from the 1st Cavalry Brigade. I have sent a Liaison Officer to that headquarters.

The 3d Division reports that its artillery is all truck-drawn, and that plans have been made to move the essential combat elements of one infantry brigade by GHQ motor transport on two hours' notice.

The 1:00 PM weather forecast predicts rising temperature, fog should clear in a few hours, continued dry.

My section has roughly prepared the following plans:

To move the 3d Division to either flank for an attack late this afternoon or early tomorrow.

To relieve the 2d Division, by the 3d Division, this afternoon or tonight and resume the attack.

To withdraw to a defensive position southeast of Gettysburg in order to assume the counteroffensive with the 3d Division from the vicinity of Hanover."

G-4 stated: "A check is being made by my section to determine how much motor transportation can be used for corps tactical operations without disrupting supply. I expect the report soon."

The Corps Chief of Artillery reported that he was studying the G-3 plans to determine the use of the corps artillery and allocation of ammunition.

The Corps Engineer reported that Red road demolitions as far south as the Emmitsburg — Taneytown road on the west flank and the line: Glenville (388-741) — Shrewsbury — Stewartstown on the east flank, were ninety percent repaired. Road

signs were being put up throughout the rear areas. The position southeast of Gettysburg was being reconnoitered.

Requirement.—Report the actions taken and orders as actually issued by Lieutenant General A at his command post between 1:45 PM and 2:15 PM, 15 March, if any.

Time allowed for solution: 30 minutes.

SECTION II (Continued)

Special Situation, Continued

Special situation, continued..... Paragraph 5

5. SPECIAL SITUATION, CONTINUED.—The following is a resumé of messages received at the I Corps command post between 2:15 and 2:45 PM, 15 March:

From the Artillery Information Service:

"Mass of hostile artillery appears to be west of Parrs Ridge — Dug Hill Ridge."

From the 1st Cavalry Brigade (message delayed due to encoding and decoding):

"Drove hostile cavalry to the south from the Maryland Line — Norrisville position at 11:45 AM. Am following up. My men and horses are greatly fatigued. Casualties have been heavy. Indications are that hostile cavalry will resist again in the vicinity: Parkton (404-727) — Shawsville (418-725). Will attack."

From the 2d Division:

"Am preparing to launch counteroffensive at about 4:30 PM. Have three battalions southeast of Galt as maneuvering force."

From the 1st Division:

"Will renew the attack at 3:30 PM in the direction: Bandanna — Ebbvale — Carrollton. Have three battalions available for the operation."

From Liaison Officer with 1st Cavalry Brigade (Personal Report):

"1st Cavalry Brigade is in dire need of rest, but their morale is very high. The commanders seem to be more weary than the troopers. Hostile cavalry withdrew in disorder from Parkton — Shawsville position at 1:45 PM."

Corps G-4 reported:

"Sufficient trucks of corps quartermaster train to move the essential combat elements of one brigade can be made available on two hours' notice without disrupting the supply of the corps."

From the Corps Air Service:

"Fog seems to be clearing; expect to send out first mission at about 2:45 PM."

From 1st Division:

"My division cavalry attacked the hostile cavalry on its front at 1:30 PM and drove it south of the Gunpowder River southeast of Gunpowder (388-734). Believe the hostile infantry on my front is preparing to resume the offensive."

Requirement.—Report the actions taken and orders as actually issued by Lieutenant General A at his command post between 2:15 PM and 2:45 PM, 15 March, if any.

Time allowed for solution: 30 minutes.

SECTION II (Continued)

Special Situation, Continued

Special situation, continued..... Paragraph 6

6. SPECIAL SITUATION, CONTINUED.—The following is a resumé of information and messages received at the I Corps command post between 2:45 and 3:15 PM, 15 March:

From 1st Cavalry Brigade (officer messenger):

"Hostile cavalry withdrew southwest of Gunpowder Falls River. My patrols reached crossings of Gunpowder Falls River at 2:30 PM. My troops must have rest and food. Have halted bulk of my force just east of Parkton. Have captured 200 Red cavalymen; am forwarding them to corps cage."

From 1st Division:

"Increased aggressiveness by hostile patrols has been noted. Hostile artillery seems to be registering on new points since the fog began to thin. Reports from Brigade Commanders indicate early renewal of Red offensive."

From 2d Division:

"Red cavalry and infantry on the front of my 902d Cavalry Squadron have initiated an advance. Am sending a reconnaissance detachment to reinforce my cavalry. Expect general resumption of the offensive by Red quite soon. Request support by corps artillery be concentrated on front of 2d Division. Have three battalions of infantry at Galt. Brigades have only minimum reserves, ammunition supply is adequate. Have reconnoitered rear position north of Big Pipe Creek between Galt and Union Mills (369-730). Fog is clearing and hostile fire is becoming much more effective."

From Air Service:

"First flight of the day of corps aviation will take off at 2:50 PM. Will make special check to locate hostile reserves and reinforcements."

From Artillery Information Service:

"Hostile 155-mm guns have been located northwest of Westminster, apparently about 2 battalions."

"Heavy artillery concentrations commenced falling on our lines in vicinity of Pleasant Valley at 2:30 PM. No information from division cavalry since previous report."

Requirement.—Report the actions taken and orders as actually issued by Lieutenant General A at his command post between 2:45 PM and 3:15 PM, 15 March, if any.

Time allowed for solution: 30 minutes.

SECTION II (Continued)

Special Situation, Continued

Special situation, continued..... Paragraph 7

7. SPECIAL SITUATION, CONTINUED.—The following is a resumé of information and messages received at the I Corps command post between 3:15 PM and 3:45 PM, 15 March:

*From Corps Aviation:

"No hostile forces of any size discovered east of the line: Parrs Ridge — Dug Hill Ridge. Heavy railroad train movements along lines through Washington — Baltimore — Havre de Grace (457-717). Bulk of truck movements from Asbestos (377-709) toward Westminster."

From 2d Division:

"Hostile attack against Pleasant Valley strongly supported by artillery was launched at 3:00 PM. Continued hostile pressure against the division cavalry. My reserves of three battalions still southeast of Galt."

From 1st Division:

"Strong Red attack launched in vicinity of Union Mills at 3:00 PM. This attack preceded by fifteen-minute artillery preparation. Hostile 155-mm gun fire has been received from area southeast of Pleasant Valley. Have reconnoitered new position for my right approximately four miles west of Ebbvale behind creek called Deep Run (not on Strategic Map)."

From 1st Cavalry Brigade:

"Have patrols searching the area to east of Gunpowder Falls River. All hostile forces seem to have withdrawn west of Gunpowder Falls River. Believe main body hostile cavalry is assembling in the vicinity of Hereford (405-719). Have halted bulk of my force east of Parkton for rest and food. Command post: Parkton."

"Hostile demolitions on east flank are slight, will be repaired by dark. Road marking details have completed marking roads to vicinity of Emmitsburg and Taneytown."

Requirement.—Report the actions taken and orders as actually issued by Lieutenant General A at his command post between 3:15 PM and 3:45 PM, 15 March, if any.

Time allowed for solution: 30 minutes.

SECTION II (Continued)

Special Situation, Continued

Special situation, continued..... Paragraph 8

8. SPECIAL SITUATION, CONTINUED.—The following is a resumé of information and messages received at the I Corps command post between 3:45 PM and 4:15 PM, 15 March:

From Corps Air Service:

"Balloon observation is still hampered by ground haze. Detachments of hostile troops have been located at Glyndon (388-706), Roslyn (398-693) and Baltimore. Large numbers of trucks are in the vicinity of Glyndon. Materials of various kinds are piled along the railroad tracks. Some intrenching is in progress in the vicinity of Woodbury (388-710) and Ashland (408-711)."

From 1st Cavalry Brigade:

"Have established contact with 901st Cavalry Squadron at stream crossing over Gunpowder Falls River about 5 miles west of Parkton. Hostile cavalry still holds Monroton (409-720) and Glencoe (407-715). Otherwise the situation is quiet."

to northeast of Gunpowder Falls River over which we have passed is clear of hostile forces."

From 1st Division:

"Hostile forces along entire front of 1st Division launched a vigorous attack at 3:00 PM. It appears that the main effort is against right of 1st Division. Union Mills is in grave danger as the attack there is supported by tanks and heavy concentrations of artillery. No definite information of conditions at the front available at this time. Defensive position along the line: Silver Run — Bandanna has been reconnoitered. Have committed none of my general reserve as yet."

From 2d Division:

"My cavalry is making a firm stand along the Emmitsburg — Taneytown Road. Was forced to commit two battalions of the division reserve to fill a gap in the line west of Pleasant Valley. Hostile attack is carried out with vigor, strongly supported by artillery and some tanks. Pleasant Valley is reported to be in hands of enemy. Will confirm this later. Have one battalion left in division reserve. Believe hostile attack will eventually be directed against Taneytown. Division air service has reported small troop concentrations moving toward that area."

Requirement. — Report the actions taken and orders as actually issued by Lieutenant General A at his command post between 3:45 PM and 4:15 PM, 15 March, if any.

Time allowed for solution: 30 minutes.

SECTION II (Continued)

Special Situation, Continued

Special situation, continued.....9

9. SPECIAL SITUATION, CONTINUED.—The following is a brief resumé of information and messages received at the command post, I Corps, between 4:15 PM and 4:45 PM, 15 March:

From 1st Cavalry Brigade:

"After hard fight hostile forces have withdrawn farther west and south of Gunpowder Falls River. Hostile infantry believed to be between Hereford (405-719) and Corbett (408-716).

From 1st Division:

"Hostile forces have entered Union Mills, severe hand-to-hand fighting going on there. 1st Division forced back about 1 mile on front: Union Mills — Ebbvale. My reserve, three battalions, about 3 miles east of Littlestown (364-740). No large hostile reserves located."

From 2d Division:

"Hostile forces have reached Big Pipe Creek near Union Mills. Hostile forces have captured Pleasant Valley and are slowly forcing our lines to the north. Strong attack developing around Taneytown. Do not believe we can hold the town without committing remainder of division reserve. Division reserve is organizing a position between Harney (353-735) — Galt. No large hostile reserves located yet."

From Corps Aviation:

"No large hostile reserves located. No Red reinforcements found in rear areas. Railroad train movement Washington — Baltimore — Havre de Grace continues heavy. Apparently hostile position being organized between Woodensburg and Ashland. Convoy of about 60 trucks moved from vicinity of Westminster toward Hereford at 3:15 PM.

Requirement. — Report the actions taken and orders as actually issued by Lieutenant General A at his command post between 4:15 PM and 4:45 PM, 15 March, if any.

Time allowed for solution: 30 minutes.

SECTION III

A Solution

A solution of requirement.....10

10. A SOLUTION OF REQUIREMENT.—Actions taken and orders as actually issued by Lieutenant General A, if any;

Between 1:30 and 2:15 PM:

Upon completion of the reports, Lieutenant General A directed that he be kept constantly informed of developments. He went to his office, having directed the chief of staff to accompany him. He discussed briefly the situation and future plans with the chief of staff.

Between 2:15 and 2:45 PM:

Continued discussion of situation and future plans.

He issued the following directive:

The corps will attack early 16 March, enveloping the hostile right flank from the vicinity of Whitehall (407-723) and capture the high ground vicinity of Hampstead (385-723).

The 1st Cavalry Brigade will continue its attack and seize the ridge west of Gunpowder Falls River as far south as Glencoe and prevent hostile ground reconnaissance to the northeast thereof. It will protect the movement of the 3d Division and will, on corps order, assist the attack of that division early tomorrow.

The 3d Division will move by motor to the vicinity of Whitehall under cover of darkness tonight. It will attack early tomorrow morning on corps order and capture the high ground vicinity of Hampstead.

The 1st and 2d Divisions will not resume the attack until daylight tomorrow. Details will be announced later.

The 3d Division will be strongly favored in the matter of artillery and other support.

The corps reserve will consist of the 1st Infantry, less one battalion, and will assemble at Littlestown by daylight, 16 March, prepared for movement by motor transport.

Between 2:45 PM and 4:15 PM:

Lieutenant General A announced to his Chief of Staff:

"I am going on a visit to the 1st and 2d Division troops and command posts by motor. Aide 'One' will accompany me. Aide 'Two' will be at your disposal. Keep me informed as to developments in the situation. I will direct the 1st and 2d Divisions to conserve their reserves for the attack tomorrow. Have a staff officer visit the 3d Division at once and go over our plans with their Chief of Staff. I will visit the 3d Division later."

Between 4:15 PM and 4:45 PM:

Returning to the I Corps command post at about 4:10 PM, Lieutenant General A familiarized himself with the situation and plans. Accompanied by Aide "One," he then departed by motor for the command post of the 3d Division. Before leaving the corps command post he approved the plan of attack as outlined to him by the chief of staff.

SECTION IV

Discussion

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11. PURPOSE.—The purpose of this problem is to illustrate the application of the tactical principles of an independent corps in an attack and the troop leading by the corps commander.

12. TROOP LEADING.—The corps commander has a large and well-trained staff at his disposal, whose function is to relieve the commander of as much detail as possible. It is the function of the staff to reduce great masses of information to brief accurate reports. The staff must see that problems requiring decision are presented to the commander in sufficient time to allow for an orderly procedure in the execution of his decisions. If the commander attempts to follow the flow of information into the command post, he will soon become so involved that he cannot adequately plan ahead. The consequence of this state of affairs is usually a series of emergency decisions, incomplete, inadequate, and too late to be truly effective.

The degree of detail assumed by the commander will of course depend upon the characteristics of the commander and the personalities of his chief of staff and principal staff officers. Regardless of the capacity for detail of the commander he must entrust his staff with every possible duty within their capabilities. He does not shift his responsibilities by so doing. If he does not properly employ his staff, he is guilty of wasting his energy and failing to make effective the abilities and energies of his assistants.

In a staff which has been working together for some time such as the one here considered, many of the details as to tactical methods of the commander will be well known to the staff. This fact relieves the corps commander of the necessity of always going into detail in his instructions. Only when he wishes to make a change in former methods will it be necessary for him to go into any great amount of detail.

In this situation the 3d Division has just reverted to control of the I Corps. It is the division selected to make the main attack of the corps and therefore its condition and state of morale and training are of great interest to the corps commander. The corps situation at 2:15 PM is such that no major changes which will prevent the attack on 16 March can be expected. Even a withdrawal on the west flank will not jeopardize the corps plan. Sufficient details as to the conduct of operations today and tomorrow have been announced by the corps commander. However, he should personally check conditions in the 1st and 2d Divisions. There is danger, if he remains at his command post, that, unless he is an unusually phlegmatic person, he may be tempted to dictate too much of the details of operation. He can do much more for the success of the corps in its attack 16 March

if he goes on a visit to the commanders of the 1st and 2d Divisions and later visits the 3d Division.

Upon his return to his command post at 4:10 PM, the corps commander received the information that the Reds had resumed their attack. This was not unexpected as G-2 had announced this as a hostile capability. The plans so far prepared having been examined by the corps commander and presumably meeting his approval, we next consider the best action for the corps commander to take. He had already informed the 1st and 2d Divisions that they were to attack tomorrow and that they must conserve their reserves today. It is about time that the corps commander issued the necessary instructions for the action of the 16th by the 1st and 2d Divisions. It will be quite late at night when the final results of the day's fight will be known at the corps command post. It is believed that the corps commander can make the most effective use of the next few hours by making a visit to the 3d Division.

While on these visits to the divisions he not only gets first hand information of the tactical situation but also of the state of morale. The visits of the corps commander may be a powerful stimulant to the morale of the subordinate commanders. He would probably not issue orders direct to the divisions but if he does do so his aide will immediately report them to the corps chief of staff.

13. TIME OF ANNOUNCING DECISION. — In the development of every operation, there arrive certain times when decisions must be made. It is the duty of a general staff so to present their reports as to receive decisions early enough for them to be effective. It is the responsibility of the commander that this be done. It is never easy to recognize the exact point in the development of operations when a decision must be announced. In this situation the situation has developed to such a point at about 2:30 PM. At this time the flank from which to attack is within the capabilities of the cavalry to secure. There is little the enemy can do between 2:15 PM and dark to prevent the Corps from attacking at daylight tomorrow. Darkness is at 7:15 PM and the 3d Division has made no reconnaissances and has not marked out its routes. Therefore it is believed that the directive, if issued later than 3:15 PM, may result in improper preparation, confusion, and ineffectiveness. Instructions must be issued earlier than 3:15 PM directing the 3d Division to "prepare to move" and the final decision might then be issued later in the day. As said before, the situation is such at 2:15 PM as to permit a decision to be announced. To delay beyond 3:15 PM indicates indecision and vacillation due to the desire for even more information. The movement of the 3d Division is difficult and will require the determined efforts and concentration of everyone to make it a success. It is wrong in principle to keep subordinates in doubt over long periods of time as to what is wished. A directive should be issued just as soon as the situation has developed to the point where the decision can be made. We will never have all the information we would like. We must at times take calculated risks as to the probable capabilities and possible reactions of the hostile forces.

Decisions reached early often have to be modified in some of their details by later developments. Therefore the directive issued by the commander must be sufficiently general or broad in its terms so as to allow the staff leeway for adjustment in minor matters. Only such changes in the situation as would make a directive impossible of successful execution should be allowed to dictate a change in the directive. Frequent changes lead to a lack of faith in a commander and the faith of his

subordinates is a commander's most powerful ally. There is nothing in this situation developed after 2:15 PM which calls for any change in the commander's directive.

14. THE DIRECTIVE.—The I Corps has been directed to capture Baltimore without delay. The 3d Division is ready to move by dark tonight and the cavalry will have gained a suitable assembly position for the 3d Division. The fog is clearing and we can expect the hostile forces to gain a clearer idea of our strength and dispositions, and to readjust his line of action to meet our offensive. He may be strong enough to continue the attack tomorrow but, if he does, he will find himself greatly handicapped by our attack against his exposed east flank early tomorrow morning. Offensive action is clearly demanded by the message from General Headquarters.

An attack of the hostile west (left) flank has some attractive features. If successful it immediately will be more costly to the enemy. It will most quickly halt his attack against our right (west) flank. It has very pronounced undesirable features. Even if initially successful the hostile forces will have to be attacked again in front of or on the line: Parrs Ridge — Dug Hill Ridge. It also drives Red back on our objective thus requiring us to find him again and again. The objective for the first day's action is the high ground in vicinity of Hampstead. The capture of this terrain feature will completely dislocate the hostile force. The easiest avenue of approach to this feature is from the vicinity of Whitehall. Either flank is equally accessible although the situation on the west flank is not so completely stabilized as on the east flank. The movement to the east flank is the most direct route to the hostile line of communications which seems to lead from Baltimore.

At 2:15 PM the corps commander is aware that the 1st and 2d Divisions are about to resume the offensive. He knows that these two divisions will constitute his holding attack tomorrow.

As long as the hostile force attacks our holding attack force, the latter will best perform its mission by defending. Therefore, to insure reserves for an attack tomorrow when the hostile forces may be attempting a defense or withdrawal, the corps commander should prevent these two divisions using up their available strength today.

The directive must be definite about the movement of the 3d Division. That division can move by motor transport and gain some surprise by moving at night. Since this transport must be out of the way or concealed by daylight, we do not have any too much time even with a long night. In view of the possible changes in the hostile situation during the night and in order to allow our feints, demonstrations and attacks by the 1st and 2d Divisions to have effect, we direct the 3d Division to attack on corps order rather than at a definite time.

The directive to the cavalry must be definite. The whole plan of the commander may be disrupted by the action of the cavalry if proper instructions are not issued. It is therefore the duty of the corps commander to tell the cavalry commander what he wants done and when and where the mission is to be performed. After being relieved by the 3d Division and its cavalry, the best use for the cavalry brigade will probably be to attack in conjunction with that division. We cannot be sure of the situation at daylight tomorrow, therefore, we direct the cavalry brigade to await a corps order before attacking.

In order to provide a strong weapon in the hands of the corps commander, in many situations we would like to hold a brigade of infantry in corps reserve. In this situation the hostile forces have so definitely committed themselves to an attack that a large reserve on our part is not so necessary as when the hostile force has committed only a portion of his force. The Blue situation has become so involved on the front of the 1st and 2d Divisions that it is difficult to envisage holding out a large reserve even if the situation did indicate its desirability.

"DECISION.—To the natural born leader, if there is such a person, the power of decision is a second nature. It is inherent in the man. The leader must be decisive. He must have confidence in himself and here again he must have knowledge and be physically and mentally fit. A poor decision promptly rendered and rigorously followed is infinitely better than no decision at all. Vacillation has no place in the make-up of a real leader. However, wrong decisions if made too frequently lead to loss of prestige and lack of confidence. The real leader is never a straddler."

—Major General H. J. Brees, U. S. Army.

Directory of Periodicals

Included in this directory are only those periodicals from which articles have been selected. See also, "List of Periodicals Indexed and Key to Abbreviations."

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			Veterinary Bulletin	
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Catalog of Selected Periodical Articles

This section catalogs the articles selected from Library periodicals for the current quarter. Periodicals in this Catalog are arranged alphabetically.

ARMY ORDNANCE

May-June 1938

- NEW WAR GASES FOR OLD? EXACTING REQUIREMENTS LIMIT THE NUMBER OF EFFECTIVE AGENTS. Major General Brigham
THE DEFENSE OF SWITZERLAND. THE PREPAREDNESS POLICIES OF A NEUTRAL IN ARMED EUROPE. Captain Liddell Hart
PREPAREDNESS IN ENGLAND. A STUDY OF INDUSTRIAL MOBILIZATION. (IV) Major Codd

July-August 1938

- THE TANK IN SPAIN. TACTICS STILL FAIL TO KEEP PACE WITH TECHNICS. Major General Fuller
STRATEGIC AND CRITICAL MATERIALS. THEIR RELATION TO OUR NATIONAL SECURITY. (I) Lieut.Colonel Rogers

ARMY QUARTERLY (Great Britain)

July 1938

- THE OTHER SIDE OF THE HILL. No. XVI. AUBERS RIDGE: 9TH OF MAY, 1915
THE JAPANESE PUNITIVE EXPEDITION IN CHINA. (II) Leurquin

THE MAJOR TACTICS OF THE ENCOUNTER BATTLE. Brigadier Montgomery
ANTI-AIRCRAFT. Rax

BULLETIN BELGE DES SCIENCES MILITAIRES (Belgium)

BY MAJOR E.M. BENITEZ, Coast Artillery Corps

January 1938

HISTORY OF THE INSPECTORATE GENERAL OF THE ARMY AND BELGIAN TRAINING CENTERS DURING THE WORLD WAR.
[Histoire de l'Inspection Générale de l'Armée et des Centres d'Instruction Belges pendant la Guerre Mondiale 1914-1918].
Lieut.General de Selliers de Moranville

The author was Inspector General of the Army and Commandant the Training Centers in Belgium throughout the whole World War and records of the work done. In this first instalment General de Moranville gives a detailed account of the work done in rear of the Belgian army building up and training reinforcements for the field, explaining the unusual difficult circumstances under which the Belgian forces had to be organized, recruited and supplied.

At the time of the retreat of the Belgian army in October 1914, the author had under his command some 18,000 recruits in training centers in France, scattered in six divisional depots of 3,000 men each. As the German continued their advance, these men were taken to Cherbourg, Dieppe, Fecamp, while new depots were opened in various towns and villages in Normandy, with headquarters at Rouen.

A YEAR OF WAR IN SPAIN (JULY 1936 — JULY 1937).

[Une année de guerre en Espagne (juillet 1936 — juillet 1937).]

(II) Major Wanty

Conclusion of Major Wanty's account of the first year of the Spanish Civil War.

Throughout this period the Government had superiority in manpower, while the Insurgents had better equipment and a much greater number of trained officers.

The large extension of front and the comparatively small number of men engaged, developed into a series of attacks and counterattacks that failed to produce any decisive results. The Insurgents' tactics seem to be superior to those of the Government forces. Tanks have been somewhat of a disappointment; however, they would probably have played a more influential role had there been infantry ready to follow them up. Gasoline bombs have destroyed many tanks or put them out of action. Motorized columns have also been less effective and difficulties at the head of the column have immobilized the entire convoy. These columns have proven to be very vulnerable to air attacks. These remarks are probably made with Guadalupe in mind.

The Douhet theory has failed to inspire national terror; on the contrary, such tactics have consolidated public sentiment and stiffened the will to resist to the last.

DESCRIPTION OF EDUCATIONAL AND VOCATIONAL TRAINING OF THE BELGIAN SOLDIER.

[Une exposition de perfectionnement culturel et professionnel ainsi que d'organisation des loisirs du soldat.]

A regimental commander's description of the educational and vocational training of the Belgian soldier and the facilities offered the soldier to pursue training while in the service.

February 1938

THE DEFENSE OF DIXMUDE 17 OCTOBER TO 10 NOVEMBER 1914.

[Pages d'histoire de l'Armée belge au cours de la Guerre 1914-1918.

Dixmude 17 octobre-10 novembre 1914.] (II) Major Wanty

The second instalment of the defense of Dixmude, describing the operations from 20-22 October 1914.

This town was a strategic road and railway center of Belgium, and for this reason the Germans made great efforts to capture it. The bridgehead was defended by General Meiser's brigade which was placed, on the evening of 21 October, under Admiral Ronarch, whose French Fusiliers fought so gallantly in the defense of the city.

HISTORY OF THE INSPECTORATE GENERAL OF THE ARMY AND THE BELGIAN TRAINING CENTERS DURING THE WORLD WAR.

[Histoire de l'Inspection Générale de l'Armée et des Centres d'Instruction Belges pendant la Guerre Mondiale 1914-1918.] (II) Lieut. General de Selliers de Moranville

This second instalment gives a detailed account of the raising and training men for the Belgian army during the World War, with full details concerning their feeding, clothing and administration. As already explained in the preceding issue, due to the rapid German advance, training centers had to be established in Normandie, with the assistance of the French Government. Some 40,000 men — 15,000 recruits of the classes 1899-1913, and 25,000 of the 1914 class — were trained in these centers.

March 1938

THE DEFENSE OF DIXMUDE 17 OCTOBER TO 10 NOVEMBER 1914.

[Pages d'histoire de l'Armée belge au cours de la Guerre 1914-1918.

Dixmude 17 octobre-10 novembre 1914.] (III) Major Wanty

The third instalment covering the operations from 22-25 October, in which the author describes in detail the heroic attempts to hold the position, although the high command had decided that Dixmude must be abandoned.

On the 24th, the Germans renewed their attacks with great vigor and the pressure on the north became so great that Admiral Ronarch's situation became perilous. Heavy losses were inflicted on the Germans, who were mostly young men of the new Reserve Corps. The lack of reserves threw great strain upon both French and Belgians, particularly the latter who could not even organize the French system of short reliefs. The machine gunners, in particular, had no rest, day or night. These operations are described in great detail.

HISTORY OF THE INSPECTORATE GENERAL OF THE ARMY AND THE BELGIAN TRAINING CENTERS DURING THE WORLD WAR.

[Histoire de l'Inspection Générale de l'Armée et des Centres d'Instruction Belges pendant la Guerre Mondiale 1914-1918.] (III) Lieut. General de Selliers de Moranville

The third instalment covering the period 5 January 1915 to February 1915.

CANADIAN DEFENCE QUARTERLY (Canada)

July 1938

CANADA'S FOREIGN POLICY. By the Right Honourable W.L. Mackenzie King.

AN ARMY THAT CAN ATTACK — A DIVISION THAT CAN DEFEND. Captain

PROBLEMS OF DEFENCE ON THE PACIFIC. Colonel Letson
A SYSTEM OF ANTI-TANK DEFENCE. Captain Kormann
TANK OR ANTI-TANK. Major Sieberg

CAVALRY JOURNAL

May-June 1938

DID THEY KNOW HOW? Major Schwien

July-August 1938

THE ROLE OF AVIATION WITH MECHANIZED CAVALRY. Captain Schlatter
DEFENSE AGAINST AIR ATTACK. Captain Noble

THE MOUNTED ATTACK IN OPEN ORDER. Colonel Stewart, Late 15th
Lancers, Indian Army

COMMAND — CONTROL — COMMUNICATIONS. A REGIMENTAL VIEW-
POINT. Lieut. Colonel Grimes

CAVALRY JOURNAL (Great Britain)

July 1938

A CAVALRY OFFICER'S EXPERIENCES ON THE INDIAN FRONTIER DURING
THE WAR. Lieut.-Colonel Beaman

CAVALRY BATTLE HONOURS: THE PENINSULAR WAR — PART 3. "TA-
LAVERA" 27TH/28TH JULY, 1809. Major Edwards

MORALE (SHOULDER TO SHOULDER). Lieut.-Colonel McCreery

CHEMICAL WARFARE BULLETIN

July 1938

SECURITY FOR THE SERVICE OF SUPPLY. Brigadier General Tyner

COAST ARTILLERY JOURNAL

May-June 1938

BOMBING OPERATIONS IN THE ZONE OF THE INTERIOR. Lieut. Colonel
Colton

AIR POWER AND TROOP MOVEMENT. Major Phillips
ANTI-AIRCRAFT COMMUNICATIONS. Captain Bartlett

July-August 1938

DEFENSE OF THE BELGIAN COAST: 1914-1918. Lieut. Colonel Tilton
BOMBARDMENT TACTICS. Brigadier General Pratt

THUNDER IN THE EAST. Lieutenant Rudolph

THE SPANISH WAR: A REVIEW OF THE BEST FOREIGN OPINION. Captain
Johnson

FIELD ARTILLERY JOURNAL

May-June 1938

LESSONS FROM SPAIN. Colonel Lanza

ARE PRIVATE SOLDIERS NECESSARY? Upson

COMMUNICATION WITHIN THE LIGHT BATTALION. Lieutenant Dishman

July-August 1938

MOVING TARGET FIRING

NIGHT RIVER CROSSING

FIGHTING FORCES (Great Britain)

June 1938

ANGLO-FRENCH CO-OPERATION. Right Honorable Winston Churchill
PARITY. Commander Grenfell

AIR FORCE EXPANSION. By Our Air Force Correspondent

August 1938

"THE BOMBER WILL NOT ALWAYS GET THROUGH." By "Realist"
THE BATTLE OF THE WILDERNESS. Lieut.-Colonel Burne

LA FRANCE MILITAIRE (France)

BY MAJOR T.R. PHILLIPS, Coast Artillery Corps

18 February 1938

INFANTRY REMAINS THE QUEEN OF BATTLES.

[L'infanterie demeure la reine des batailles.]

The author recalls that it is not today only that one admits that battle has lost its decisive character. This information was obtainable from the Russian-Japanese War. And it seems that the only method of overcoming this inconvenience is a new mobility of operations, mobility which requires tactical continuity in the progress of the attack.

In all armies this truth has been recognized and all understand equally that tanks have not fulfilled all hopes placed in them. It is not tanks that

will be able to bring decision in battle and it is necessary anew to turn toward the eternal infantry. It is infantry which should provide the solution to the problem by the continuity of its forward movement.

However, it seems that tanks are a primary necessity to gain continuity of movement for the infantry offensive. Equally, it is indispensable to furnish aviation for close support of the infantry attack. Valuable information on this subject has been gained from Spain and the Orient in the past year. As Captain McNamara said in "The United Services Review," even aviation will not be decisive in a future conflict, although it has mastery of the air, and neither will tank armies; in fact, the infantry must gain the decision. The action of artillery will be capital in the attack, but infantry cannot progress against machine guns unless covered by tanks. Artillery, certainly, will always tear up the position but here and there a machine gun will remain to paralyze the advance of the infantry until the tanks get to work on them.

It would thus seem established, writes Major Soldan, that at the close of 1937 it is not from a new arm that the decision is to be expected, but by the constitution of a remarkable infantry.

Infantry appears anew today, and with good reason, as having the capital role and as the queen of battles. It will be just that much more sure of success if the new arms are placed in its immediate service. Everything should be grouped around the infantry and that is why, in England, they have placed tank units in infantry divisions.

Thus, the year 1938 should see the development of all power around the infantry. The great problem which this imposes on all arms is the constitution of modern infantry, for, fundamentally this must be the foundation of team work of all arms.

"Modern Infantry" is on everyone's lips today; but infantry is not modern because it possesses armored antitank weapons and grenade throwers. It will not be modern unless it heads the team and unless in theory and in practice the other arms proceed as satellites in its service and abandon their error of considering themselves anything different.

5 March 1938

THE GERMAN THRUST TOWARD THE SOUTHEAST.*

[La poussée allemande vers le Sud-Est.] Colonel Baron

In an article in "La France Militaire" of 12 September 1937, the author examined the employment of the four groups of large German military units in the different eventualities that might take place. One eventuality foreseen, the march on Vienna, appears to be about to take place. This is a prelude to the march on Trieste or on Salonika.

The General of Artillery, von Reichenau, who has commanded the VII Army Corps at Munich, has been called to the command of the 4th Groupment of large units at Leipzig, where he replaces General von Fritsch as head of ground military forces. General von Reichenau seems to be due to centralize under his control the direction of the four army corps stationed on the frontiers of Czechoslovakia and Austria: the VII Corps at Munich (General of Infantry Ritter von Schobert), the XIII Corps at Nuremberg (General of Cavalry von Weichs), the IV Corps at Dresden (General of Infantry von Schwedler), the VIII Corps at Breslau (General of Infantry Busch). In addition, he has a Bavarian mountain brigade at Lindau, the 2d Division of Cavalry at Breslau, and the 1st, 2d, and 5th Armored Divisions at Weimar, Würzburg and Breslau.

The von Reichenau Group thus constitutes an excellent means for immediate pressure on Austria and Czechoslovakia. This group can be supported by a number of army corps detached from the First and Second Groups at Berlin and Cassel, without disturbing the large covering forces indispensable against possible operations from Poland or France. Facing toward France, protection seems to be assured by the V and XII Corps at Stuttgart and Wiesbaden. The covering forces will be commanded by General Kuntz, stationed at Kaiserslautern. Facing Poland is the First Group, commanded by General von Runsteut, which includes the I, II, III and VIII Corps, with headquarters at Königsberg, Stettin, Berlin and Breslau. Since the VIII Corps belongs also in the offensive Group of von Reichenau, it will be replaced in its covering mission toward Poland by Landwehr units, probably grouped under the orders of General von Kleist.

There remains, then, to support the offensive action of the Reichenau Group, the VI, IX, X, XI and XIV Corps, the 3d and 4th Armored Divisions and the 1st Cavalry Division. The German Army can thus throw two successive masses toward the southeast: in the first line the Fourth Group, including under the orders of General von Reichenau, four army corps, a mountain brigade, three armored divisions and a cavalry division; in the second line, the Third Group with headquarters at Dresden, including five army corps, two armored divisions and a division of cavalry. Are the Austrian and Czechoslovakian armies capable of resisting an aggression of this importance and quality?

19 March 1938

RUSSIAN REFLECTIONS ON THE GERMAN ARMY.

[Réflexions russes sur l'armée allemande.] Colonel Choumski

The year 1937 has passed without the war which many expected, and 1938 poses the same question with greater anxiety. This question depends solely upon Germany, the one country where preparation for war is the fundamental stimulant of national life. But von Seekt and his disciples, casting aside the lessons of the World War, wished to prepare a rapid war based almost solely on tanks. An army which wishes to attack an enemy suddenly and by surprise will interest itself more in the speed of their tanks than in their armor and armament. Von Seekt deemed it necessary to reinforce his armored land force by a thousand airplanes.

Von Seekt's theories encountered considerable resistance among the representatives of the old German General Staff, but they conquered com-

pletely the new generation which had no war experience and whose military instruction was very brief during the period of German army limitation. The new academy, headed by General Libman, an intimate adviser of the Führer, has only functioned for two or three years, and the first officers who have graduated are still doing their service with troops.

Two tendencies were formed in the General Staff Corps and separated the old officers who had been formed in the war college in Berlin and had fought the war, and the young officers without war experience and graduated from the abbreviated post war staff course. The official organ of the army, the "Militär-Wochenblatt," is duplicated now by the "Deutsche Wehr," organ of the new German military thought, in opposition to the ideas of the old General Staff. The opposition had tended to move the point of view of the older officers toward the French tactical ideas, which consist of gaining time to permit mobilization, covering troops awaiting the enemy on prepared positions, with flanks well supported and strong reserves for counterattacks in case of need.

The members of the old General Staff, with von Blomberg, held these ideas and backed them up with experience in Spain, which was not favorable to rapid tanks. These, separated from the infantry, even though victorious, were destroyed by antitank guns and even field artillery, after having exhausted their ammunition. Tanks, like the ancient rolling barrage of the World War, must be followed closely by the infantry. But, since according to the principles of von Seekt, they should be fast, it followed that the infantry should be carried in motors. Experience with this theory was obtained at the Battle of Guadalajara, 8-23 March 1937, when the aviation transformed enormous columns of motors into a mass of iron junk.

These experiences aroused the reflections of the partisans of sudden attack, without a declaration of war. German military publications, which even recently have emphasized the remarkable qualities of their tanks, especially their speed which permitted decisive blows, are now publishing better considered articles, notably those by General Eimansberger, an Austrian tank authority. He declares that at least a year will be required to manufacture enough tanks to have an effective superiority over an adversary under the most favorable conditions. And the "Militär-Wochenblatt" writes that rapid tanks which separate themselves from the infantry are a contradiction to the fundamental idea of this weapon. As a result according to the ideas of the older German General Staff officers, there is no longer any question of a sudden attack and it will require at least a year to manufacture material sufficient in quantity and quality.

At the time Hitler came into power the idea of rapid war was the basis of German strategy and that is why the dictator could affirm in his speeches that he would appear, suddenly, before the enemy, by surprise, and destroy him. The generals of the older school refused to follow the Führer over the ground and Field Marshal Blomberg, although an ardent National Socialist, was not able to renounce his military convictions. Besides, even a superficial examination of German military literature showed that the strategy of Blomberg diverged from the political aims of the Führer, and still farther from Goering's strategy, who had sought for a long time to advance the "corrected Douhet strategy."

One of the evident proofs that the General Staff had renounced the sudden attack of von Seekt, founded on the invasion of divisions of tanks and the famous thousand airplanes, is the stopping of the formation of new armored divisions. Even the organization of the 4th Division of tanks already completely ready and destined to occupy the industrial region of Elberfeld-Barmen, has been stopped at present.

After having realized that tank units alone could not undertake serious operations, the organizers of the new army decided to proceed with the reinforcement of the motorized infantry so that it would not be left behind the tanks, and in the first half of 1937, 14 regiments of infantry had been motorized. However, the Battle of Guadalajara, where the motorized infantry had been beaten, has forced the German General Staff to arrest the further motorization of the infantry.

The creators of the new German doctrine of war are completely routed. The new apostle of tanks, General Eimansberger, explains that if tanks have not succeeded up to the present, it is because they have not been used properly and he declares that they should be sustained in the offensive, not only by infantry, but with powerful artillery support which must be able to follow them. This idea, according to which the tanks, destined first to replace the artillery in order to do away with the artillery preparation which signalled the attack, should now be supported by this same artillery, has been accepted as a novelty and increased motorization of the artillery has been commenced. However, in many of the division artillery regiments, the "third sections" for the support of tanks are as yet unorganized.

The Germans have thus renounced their faith in the creation of a tank mass and admitted the French theory. It is the same with the strategy of aviation. The old German General Staff has always held that the mission of aviation was to aid the ground troops and only after such requirements had been met to undertake some independent operations in the form of raids on the most important centers from a military point of view. In a recent article in the "Militär-Wochenblatt," Colonel Braun demonstrates that the thousand airplanes and the sudden attack are questions of the second order and that it is necessary above all to satisfy the aviation needs of the ground army and also the requirements of the vital and most important centers of the country for antiaircraft defense. He indicated that each army corps should have nine reconnaissance planes, three for artillery observation, and eight for liaison; each army, eighteen reconnaissance planes, nine pursuit and nine bombardment; each flank division, a squadron of airplanes and each mobile division, whether tanks or cavalry, its nine.

For the defense of important points it is necessary to count on at least a squadron of nine planes each; the frontier cannot be left without defense and the probable routes of invasion of an enemy raid must be cared for. Consequently, after having satisfied all the needs of the army and of the antiaircraft defense, there will not remain many planes for aerial raids of

*Published prior to the German-Austrian union.

thousand airplanes, and if these needs are not satisfied, the army might be seriously menaced, and villages and important points subjected to destruction. Thus the old German General Staff had divided the aerial forces in such a fashion that they were destined, in time of war, to serve the army and defend the country. The day after the taking of supreme command of all the armed forces by Hitler, a decree announced the unification of the aerial forces into three air armies, called division air groups with centers at Munich, Berlin and Kiel.

In 1934, Goering had personally directed an aerial maneuver the theme of which was a war between Germany and France, and in which, simultaneously with a sudden attack against the Maginot line, a thousand airplanes left the Stuttgart airdromes and completely destroyed Paris. The conclusions were sent by Hitler to Blomberg and the representatives of the Reichswehr declared that the strategy of Goering might have been fortunate, but that it could also have led to complete disaster. Besides, even in case of success, there was no reason to admit that the will to resist would be broken and that the French would renounce prolonging the war.

As far as preparation for war is concerned, the organization of the army and its personnel should be considered. The German army, transformed in a few years from the Reichswehr of 100,000 men into an army of a million, is badly in need of officers and noncommissioned officers. Young men upon graduation from school, are given a superficial examination if they wish to enter a military school and those who are sent to the artillery and engineers troops pass a very simple mathematical examination. Their scientific culture cannot be compared to that of the officers of the old German army and still less to that of the French artillery officers. The spirit of the Prussian army and the spirit of its officers rests now on a doubtful base, deprived of the traditions of the old army.

Furthermore, while in the French army all the officers of the grade of major and above took part in the Great War, in the German army even a part of the officers of the grade of colonel, as well as all those under this grade, commenced their career after the war. The high command of the German army fought the war in the grade of captain and some few in the grade of major. The French Generalissimo, Gamelin, was chief of staff of a group of armies during the war, while the commander of the German forces, General Brauchitz, was then only a captain in a reserve corps of the Guard.

As for noncommissioned officers, a part of them have been furnished by the soldiers of the Reichswehr and for the rest three schools have been instituted at Potsdam, Biberich and Vetzlar. However, Berthod Jacob states that there has not yet been a single graduate from these schools.

For recruitment of general staff officers, the duration of the course at the War College has been reduced from three to two years; but in consequence of a lack of officers in the regiments they send graduates by preference to troop commands instead of designating them to general staff. The German army has even recalled former general staff officers to service from retirement, among others Colonel Herke, Chief of the Railway Bureau to the minister and Colonel Hemarich, chief of the topographical section.

The German example is convincing once more, that to create an army, it is not sufficient to assemble men and arm them, it is still necessary, and this is more difficult, to create the skeleton, the corps of officers and non-commissioned officers.

Colonel Choumski terminates his study in saying, with appreciation the most impartial and friendly, that the German army does not have the quality to be recognized as entirely ready for the difficult and bloody examination that would be given it by an European war. The German army lacks a well determined military doctrine, a compact and tested group of leaders, superior and inferior, as well as the matériel it needs.

19-20 April 1938

IRON DISCIPLINE IS MORE NECESSARY THAN EVER IN THE SOVIET ARMY.

[Une discipline militaire de fer est plus que jamais nécessaire dans l'armée soviétique.]

In the issue of 20 March 1938, "Krasnaia Zvezda," the organ of the Red army attacks the leaders and political commissars who do not maintain iron discipline in their organizations.

A military discipline, like iron, writes the author, is the foundation of the aptitude for combat of the Red army and of the victory of the Soviet people over the enemies of the socialist revolution. The Party is going to destroy the Trotskyist traitors who struggle against the organization of the regular army and against the strengthening of its discipline.

Our army is the most homogeneous, the best organized and best disciplined in the world (this does not seem exact in view of the facts cited further on); the discipline of the Red army is based on the high conscience of the combatants, of the leaders and the political commissars, and on their devotion to the party of Lenin-Stalin and the socialist fatherland. Our army leads in modern technique and the role of each soldier and each leader has largely increased; under these conditions discipline assumes an enormous importance; the slightest lack of discipline, execution different from instructions, can ruin modern mechanism and lower the value of the units of the army.

The decisive role in the struggle to be carried out to maintain an iron discipline falls to the leaders and the political commissars; they are responsible for it. Unfortunately, there are in the Red army some leaders and commissars who have forgotten that without iron discipline one cannot win a victory, nor resolve the problems of military and political preparation.

The author then cites some concrete cases: it is in this category, he writes, that belong, for example, the commander of an aviation formation in White Russia; in this organization there is no control, nothing but heedlessness; orders are not obeyed; neither regulations nor instructions are followed; an order to lead the flights had been given to Captain Nikitine; Nikitine did not execute the order, but transmitted it to Lieutenant Polovov,

who in turn passed it on to a subordinate. Consequence: diverse damages, wreckage of costly military machines; interruption of instruction.

A leader who does not conform to the exigencies of the service ceases to be a leader and should no longer have the confidence of the Party and the Government. The fight to obtain iron discipline is in the first place the function of the political commissar; he is the representative of the Party in the army; he represents Stalin's central committee; he should be the personification of the high Bolshevik discipline, but unfortunately, there are commissars in the Red army who are not equal to their task; for example, in the organization to which Commissar Petrow is assigned, the soldiers absent themselves at will; they abandon themselves to drink . . . and Commissar Petrow does not even think of remonstrating with them for this lack of discipline; he ceases then to be a commissar.

The leaders and the commissars who act thus are not true Bolshevik chiefs; let them be relieved of their commands and their commissariats.

The enemies of the people, the traitors to the fatherland, the partisans of Trotsky-Bukharin have attempted to destroy the iron discipline of the Red army, to weaken its military ability; they have not succeeded and will not succeed. Consequently, it is necessary without delay, to reinforce this iron discipline; it is necessary for the leaders and commissars to occupy themselves every day with their subordinates, watching over the execution of orders given until they are accomplished, not tolerating the least transgression of orders. Those leaders and commissars, who in their daily service fail to pursue the struggle to obtain iron discipline are pitiful; but it will only be obtained where the efforts of both are combined to understand the needs of the men and to satisfy them.

The struggle for iron discipline is the task of the Party men, the organizations of the Komsomol in the army, of all Bolsheviks, of men who are not even in the Party.

The communists and the adherents to the Young Communists, should daily impregnate the soldiers with the spirit of discipline and bolshevist organization, but the discipline of the soldiers depends above all upon the discipline of the leaders.

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It is hardly necessary to make any commentaries on this article. The reader is left to draw the elementary deductions deriving from it.

1 July 1938

CAN RUSSIA MAKE WAR?

[La Russie peut-elle faire la guerre?]

In "Deutsche Wehr," M. Petersen, under the title: "La Russie peut-elle faire la guerre sur deux fronts?" exposes the Scandinavian point of view which has been brought to light in a brochure by the well known Scandinavian military writer, Naval Captain Norup. The brochure is titled: "Can Russia Make War?"

When, in January 1936, Russia announced the grand lines of its four-year plan with a view to development of its military forces, many military specialists were skeptical; it was known that Russia had an immense human reservoir, but it was demanded if this reservoir that could be mobilized would be well instructed, equipped and commanded.

Ex-Marshal Tuchachevsky, the father of the plan, had modified the physiognomy of the Russian army in changing the proportions existing between the active army and the reserve. If previously it was admitted that the active army should be one quarter and the reserve three quarters of the whole of the ground army, Tuchachevsky considered that the reserve should not represent more than 25% of the Soviet army; it was necessary, besides, to increase to a hardly imagined degree the material of war.

One can estimate that in February 1938, the Russian ground army was 1,700,000 men; if to this are added the aviation and the navy, the total would amount to about two million men.

For these two million men there is in general the necessary modern matériel aside from a few shortages; but for an army of mobilization of eight million men there was a total lack of equipment and the largest part of these elements could not be compared to the troops of the European powers; the considerable masses of artillery and of machine guns, which would be necessary to equip the total did not exist; the matériel and munitions existing are defective.

Tanks are about 5,000 in number, and of these a large part are no longer modern and are incapable of working against modern antitank weapons; the same remarks apply to the aviation of which they have about 6,000 machines.

At the eighth congress of the Soviets, last year, Stalin demanded that the manufacture of airplanes be tripled so as to provide 15,000 machines by the middle of 1939; it was desired to incorporate 500,000 new specialist workers, but all this would not permit the achievement of the plan by the hour desired, and even if they did succeed, instructed and mobilizable effectives for the machines were missing, and even more since in Russia a large part of the aviation is destined for the mission of independent operations which require personnel of the highest caliber; there can be no just pretension that the Russian aviation, as contended in certain European circles, is superior to the aviation of the great European powers.

The Red army and Red aviation forces, pursues Captain Norup, for strategic and population reasons is divided into fifteen military regions, of which ten are in European Russia and five in Asia; the strongest military potential is in the west and the three military regions of Leningrad and the North Sea include half the army and more than half of the motorized units; the Finnish frontier has also been largely reinforced recently; if one adds to this account the military regions of Moscow and Kharkov, one can say that two-thirds of the Red Army is concentrated on the western frontier.

This division is comprehensible, adds the author, for European Russia and the Extreme Orient constitute two theaters absolutely distinct and in spite of the development of aerial traffic, it is impossible to displace great

masses of troops over such distances. Soviet Russia cannot maneuver on two fronts, as Tuchachevsky himself realized, for practically there are insurmountable difficulties and the development of railroads and auto highways in Asiatic Russia does not change this situation in any respect; that is why Russia cannot act in a decisive fashion in the Extreme Orient. There, there will always be two elements absolutely unfavorable: distance and climate.

In distance, Chaborowsk, headquarters of the commander in chief of the army of Extreme Orient, is about 3,700 miles from Moscow, and from Kiachta to the Russia frontier, near Kalganil, it is about 1,200 miles; if the Russians wish to attack, the Japanese could throw themselves on Northern Manchuria, for the new port of Raschin in Korea, now being developed, permits them to avoid Port Arthur; if the Russians are habituated to extreme cold, they will nevertheless be tried by the temperature in the Gobi Desert, with a mean average temperature of -26 degrees and frequently as low as -42 degrees.

Whatever may be the case, the concentration of the Russians in the west shows clearly that the Russians themselves envisage the conflict in the west.

Captain Norup then examines the question of the Soviet fleet; he concludes that apart from a good fleet of usable submarines, the Russian fleet is composed of old matériel and that the age of this fleet is such that it could not be engaged in combat with modern units of the large maritime powers; under no circumstances could the Russian fleet fight on two fronts, in Europe and Asia.

To summarize, writes Captain Norup, if one wishes to give a general impression on communist military force, one can say, in spite of all the efforts and contrary to the assertions of Russian propagandists on the development of a considerable army entirely modern, the truth is that a mass has been raised, a crowd, but that the soviet military power is less than is generally believed and that, in combat on two fronts, Russia will not have the slightest chance of winning.

The recent purge which has still more singularly diminished the value of the Soviet Army, added to difficult strategic conditions and interior politics, leads directly to the passive attitude of Soviet Russia in China.

But this should not prevent, M. Petersen remarks, paying some attention to the measures taken by Russia on certain Scandinavian frontiers; if the interior difficulties of Russia do not grow less, it is possible that the masters of Russia would like to see a war which would conceal their incapacity.

THE AERIAL DANGER — EDUCATION OF THE POPULATION.

[Le danger aérien. L'Education de la population.] General Niessel

In France passive defense against aerial attack is a civil function. The civil authorities lack competence to accomplish anything along these lines and that is the reason we have done so badly. Other countries have obtained results superior to those realized by us and if this is so it is because they have operated under military control.

In Germany, aerial defense is entirely confided to a military minister, the minister of the air, not only active defense, that is to say the military means used to combat enemy airplanes, but also passive defense, that is to say the organization of the protection of the population. For the latter, the Minister of the Air is assisted by a superior committee (Presidium) composed of a small number of civil and military officials. The country has been divided into fifteen regions, at the head of each of which has been placed a responsible chief assisted with a general staff. A central school is charged with the formation of the superior personnel. In each region an instruction detachment assures that of the personnel of subordinate direction. Two thousand schools disposing of 9,000 instructors, are charged with the theoretical and practical training of the personnel of execution. The Reichsluftschutzbund, league of aerial protection, counts eight million adherents, all voluntary. It has organized 21,500 centers of protection; 28,000 functionaires and employees assure the organization of 1,100,000 instructed and prepared volunteers for their special role. All the hierarchy of the police is under the order of the Air Minister to watch the execution of these measures; the orders given for the execution of the exercises are under the form of police orders, and it is specified that all the agents of execution, even to and including the house chiefs or chiefs of groups of houses, responsible for the application of the orders, shall be obeyed like a policeman in uniform. To reach the entire population, instruction is given children in all the schools and in the groups of "Hitler Youth." An abundant propaganda is made by the press (25 special revues heavily illustrated), the motion picture theater, tracts and conferences. Group exercises are frequent and are preceded at times for several weeks by exercises of detail executed house by house, under the surveillance of the police and with the cooperation of the brown and black militia and "Hitler Youth." The law on aerial defense specifies that "all Germans of both sexes, and even foreigners living in Germany, are required to perform all acts, services and requirements necessitated by aerial defense gratuitously." Many retired officers are included in the directing personnel of protection against the aerial danger. As for the spirit in which this organization is directed, the "Berliner Tageblatt" informs us: "All Germans will henceforth be subjected to the test of fire, and not only for six months or for occasional exercises . . . The object is to safeguard the driving force and morale of the nation, and to destroy the erroneous conception that the civil population is exposed without protection or aid to the eventual horrors of aerial attack."

We could trace a similar picture for Italy, Switzerland, Belgium, Czechoslovakia, Poland, Russia and Japan. While leaving to the civil authorities the execution of the work, military authority or associations of military or semi-military character associate themselves with the former and often control or direct them. In all these countries as the basis of propaganda is found theoretical instruction, and often practical, given to children in the schools. In England, up until 1935, private initiative was entirely depended

upon, but in 1936 a special school for the formation of superior personnel and instructors was opened.

It is logical to take account of the experiences and to proceed in the same fashion ourselves.

In order not to discard the organization already existing, it would be logical to divide the country into aerial defense regions corresponding to military regions and to create in each of them a commander and an organ of instruction as soon as the personnel necessary could be detached from the military services, whether they are retired officers or civil leaders chosen for special aptitudes. All this personnel, which should be volunteer, should receive the indispensable basic instruction, and even though they are not perfect in their role, the cooperation and control by military authorities will be the essential condition of success.

To assure the education of the population and the recruitment of the many tens of thousands of volunteers necessary an intense propaganda should be started. The more one speaks of the aerial danger, showing its nature and extent, and the possibility of assuring by good organization a great diminution of losses, the less the populace will be frightened. The propaganda should be based, as in Germany and in the other countries, on instruction directed first to children in the schools. These, talking to their parents, who in their turn will be curious about it and ready to receive instruction given by the press, tracts, books, conferences and the cinema.

10-11 July 1938

GREAT BRITAIN'S AIR PROBLEM.

[Le problème aérien en G.B.]

The air question remains (and more than ever) in first place among English preoccupations. The great material effort already realized by purchases of machines from British and American manufacturers is known. But just recently Sir Kingsley Wood, Minister of Air, announces a new campaign of recruiting for the Royal Air Force; at the same time, Mr. Hore-Belisha, Minister of War, augments considerably and reorganizes the aerial defense of the territory.

The simultaneousness of these declarations and the great extent of the reforms they announce, are somewhat surprising. But no one has criticized them. In the House of Commons, solely, some few deputies have demanded precision on points of detail. The papers, on the contrary, devote long favorable articles to the question, showing all the interest of the English public in these problems and recognition that the effort demanded of them is necessary. It is especially an effort in men and money, for it is necessary to pay the new recruits well.

The heaviest burden will perhaps be that of the Royal Air Force. The problem is to provide for the utilization and maintenance of the new matériel which is being delivered. And for this airdromes, schools and personnel are necessary.

The schools have been planned: two for apprentices; four for future pilots (at Grantham, Gullam, Loesemouth, Kinloss); twenty new airdromes are envisaged. Their establishment is included in the general plan of the government which covers under this title the sum of sixty million pounds. The locations of eleven have already been selected, most of them in the north of England and Scotland, without doubt to place them in security against a sudden attack.

In personnel a large effort is demanded: 2,000 pilots, 550 observers, 26,000 workers and riggers, 3,000 students.

Naturally these come by voluntary engagement. Here are some details on the advantages agreed upon: the pilots are commissioned for a short term (4 years active and 6 years reserve) but with the opportunity for permanent commission. Age: 17½ years to 25 years. Pay and allowances 340 to 380 pounds.

The other categories are naturally less favored. But the problem is whether it will be easy to find this many men. 31,000 enlistments are needed, but Sir Kingsley Wood hopes to have 350,000 applications which will permit him to fulfill the frame in the nine months foreseen. Besides, appeal is being made to the Dominions: Canadians, Australians and New Zealanders, determined fit physically, will have their passage paid.

This effort does not prevent Mr. Hore-Belisha, on his side, from announcing that he is going to double the effectiveness of the anti-aircraft defense forces. In 1935 it included 2,000 men and depended upon the territorial army. Actually, he has created two divisions amounting to 43,000 men. This figure is to be doubled to attain 100,000.

At the same time the command is being reorganized. Not only is the number of divisions being increased from two to five (this can be understood from the augmentation of effectiveness) but also the high command is being reorganized and given new independence and importance.

The five divisions will be under the orders of a corps commander with the grade of lieutenant general responsible for leadership above the officers of the air commanding the combatant units.

In the Ministry of War, a delegate from the Chief of the Imperial General Staff (aerial defense) with the grade of division commander will be responsible for anti-aircraft defense to the Secretary of State. He will have under his orders a director of instruction and of organization of anti-aircraft defense having the rank of brigadier general.

This reorganization of the command, which recalls slightly that which already exists in France, has for object the centralization of everything pertaining to defense against air attack.

The total of these reforms shows clearly what importance Great Britain attaches to air affairs and the worry aroused by the danger of aerial invasion.

They are but the essential steps of the general rearmament of our neighbors and friends, a sure guarantee of the future peace of Europe.

FROM THE REICHSWEHR, 1933, TO THE REICHSHEER, 1938.
[De la Reichswehr 1933 au Reichsheer 1938.] Colonel Baron

In 1933, when Adolf Hitler was called by President Hindenburg to assume power, the Reichswehr included ten large units, that is seven divisions of infantry and three divisions of cavalry.

These divisions were broken down in twenty-one regiments of infantry of four battalions (of which one was a recruit battalion), eighteen regiments of cavalry of five squadrons, seven regiments of artillery of three or four groups (the fourth group being the horse artillery of a cavalry division), seven battalions of engineers, seven signal corps groups, seven groups of seven trains, seven groups of automobile trains and seven medical groups.

This number of large and small units sufficed for the professional army of 4,000 officers and 96,000 men imposed on the Reich by the Treaty of Versailles. It was insufficient as a nucleus for a modern army destined to receive and instruct one or two classes each of 400,000 young soldiers and to mobilize in the future several million reservists.

The first task which was imposed on the new Chancellor, desirous of giving Germany a military force capable of realizing its plans of German expansion, consisted thus of augmenting the number of units of the Army.

The Chancellor and his military counselors, Generals von Blomberg and von Fritsch, had the choice between two procedures, one to base the expansion of the Reichswehr on the system of units of tradition (each regiment of the former imperial army being, in general, represented by a company, squadron or a battery in the Reichswehr), the other being to content themselves, at least initially, with the tripling of existing units.

For numerous reasons, of which the most important was the lack of suitable leaders, it was the second plan which was adopted.

But it was not sufficient to prepare the frame work of units, of instruction and combat; it was necessary also to foresee the administration of the future soldiers as well as of the instructed reserves. It was also necessary to organize the instruction, at least summarily, of the fifteen classes (Germans born between 1900 and 1914) which had not received any military instruction.

Parallel with the tripling of the active units, it was thus necessary to create organs of recruitment and administration; these were the inspections and districts of recruiting. It was necessary to create, at the same time, rapid organization of instruction similar to the centers of instruction of the World War; these were the ersatz units (battalions and batteries) commanded by ersatz officers (retired officers who had served in the Reichswehr or even in the old army).

This period of preparation extended from January 1933 to October 1934.

At the latter date, each battalion (except the recruit battalions) and each artillery group of the Reichswehr (except the horse artillery) transformed itself into a regiment of infantry of three battalions and a regiment of artillery of three groups. Each battalion of engineers gave birth to two others. Each signal, medical and train group expanded into three groups. Alone the cavalry regiments and the horse artillery were not touched by the tripling. However, the 3d Cavalry Division (Weimar) became the 1st Armored Division.

In this manner the Reichswehr expanded in the winter of 1934-35 to include twenty-one divisions of infantry, two divisions of cavalry and one armored division. Side by side with this and in its service, twenty-one inspections of recruiting and about 200 recruiting districts were constituted, commanded and trained by ersatz officers (retired officers called to active duty).

Compulsory military service was decreed in May 1935.

In the autumn of 1935, the class of 1914 (date of birth) was incorporated. It is necessary, in order to give an idea of the difficulties the reorganizers of the German army had to surmount, to recall certain essential facts.

The number of officers of all grades and all arms retired by the Reichswehr in its fourteen years of existence could not have exceeded four or five thousand, of which not more than three thousand, at the most, could be used in 1934. These were for the most part, required by the inspections of recruiting and the ersatz units.

The active units of infantry, engineers, communications and trains were able to draw new leaders from among the officers and noncommissioned officers, active and retired, and from the state police (Schupo). This resource hardly existed for the artillery, which only disposed, to fulfill its triple obligations, of its own cadres of 1933. It was not possible to obtain from the military schools of artillery instruction, without a delay of at least two years, a triple production of lieutenants.

In spite of this, in the course of the winter of 1935-36, six divisions of infantry and two armored divisions were created by drawing on the twenty-one divisions of infantry and the armored division whose existence only commenced with the preceding winter. These new creations were not of a nature to ameliorate a problem already difficult.

It was this army of twenty-seven infantry divisions, two cavalry divisions, and three armored divisions, framed summarily enough and composed in the majority of young soldiers of seven months service, that was available to the Reichsführer when he undertook the reoccupation of the Rhineland in May 1936.

In the year 1936, two new infantry divisions were established in the former militarized zone, one at Düsseldorf and the other at Frankfurt-sur-le-Main.

It was in 1936 also, that the Chancellor decided to extend military service to two years and to increase the number of divisions of infantry to thirty-six.

In the autumn of 1936, when the class of 1915 joined the class of 1914 in the active services, the new Reichsheer included thirty divisions of infantry

(grouped in ten army corps), two divisions and one independent brigade of cavalry, three armored divisions.

Beside it thirty-four recruiting inspections functioned disposing of 270 districts of numerous ersatz units.

In 1937, the number of infantry divisions was increased to thirty-six of the normal type and one mountain; in September of the same year, the class of 1914 passed to reserve and was replaced in the active corps by the class of 1916.

In February 1938, when the march on Vienna took place, the active German army included about 800,000 soldiers, about half having sixteen months of service and about half, four months, but in which the officer framework had neither in quantity or quality, especially in the artillery, a value corresponding to the importance of the effectives in soldiers.

Since, the Reichsheer has absorbed the Federal Austrian army whose numbers seem to have been reduced to six divisions (three of the normal type, two mountain and one armored).

The new army is articulated in sixteen army corps, thirty-nine divisions of normal type, three mountain divisions, five armored divisions and five cavalry brigades.

It is an imposing total, which, to become equally as powerful as imposing, must wait the slow and patient formation of leaders.

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By Captain H.N. Hartness, Infantry

March 1938

NEW WAYS FOR MOTOR AND RIDER.

[Neue Wege für Motor und Reiter.] Major General Eyb

Before discussing the subject the author depicts some experiences from the War in Abyssinia. He notes the rapid road construction there was achieved primarily because motors were able to advance material across country and construction could be begun simultaneously at various points.

A new departure was indicated in the transportation by motor of beasts of burden to areas impassable to motors and from there the animals were used to carry the truck loads farther. Mounted reconnaissance was of little consequence. Air observation plus a well organized spy and scout service provided excellent information. Small, fast-moving advanced or flank units consisted of tanks and motorized infantry and artillery, which for the most part were supplied by air.

Between 25 April and 5 May 1936, the so-called "March of the iron will" was made. An army of 20,000 men, wholly motorized, in 1,600 trucks marched (motored) 200 miles in 11 days (Dessie to Addis Ababa) over a single swampy trail. Much time was spent in repairing and rebuilding the road base. For the march and accompanying the column were adequate ammunition supplies, twenty days' food supplies and sufficient gas and oil for 600 miles. The trucks, with a few exceptions, were ordinary commercial vehicles.

The question arises: Could a force consisting of cavalry alone and of equal man strength have made the march faster? The answer must be yes, but horsemen alone without the artillery and necessary impedimenta would not have been so capable to give battle. Unreinforced cavalry can only cause an already fleeing enemy to continue in flight. But the question to be investigated is that of the relation of motor and animal in large army units. Shall rider and motor be closely bound together? If so, then there arises this situation: So long as the route is half-way good the motor travels more rapidly and outdistances the rider. Without motor routes (as in Abyssinia) the mounted unit (also motorcycles) can move faster and farther, but since its power to sustain combat is limited it must in turn wait. Many solutions have been offered to preserve the cooperation between motor and rider. One will assign wooded areas without roads to the mounted unit, open stretches to the motor. But up till the present, cavalry has always most cheerfully avoided the woods as an area of activity. Moreover, it is a peculiarity of nature that woods and open areas are neither regularly nor geometrically spaced.

In order to reach a conclusion, an attempt must be made to determine the capabilities of the motor and the horse.

(1) Speed of the motor column. — This is influenced greatly by the distance between vehicles. As a rule of thumb we say that for each kilometer of speed per hour there should be one meter distance between vehicles; that is, at a speed of 40 kilometers per hour a distance of 40 meters between vehicles should be maintained. And today it is undoubtedly better travel at greater speeds with greater distances between vehicles.

These large distances are of no disadvantage. In fact, greater speeds with greater distances between vehicles appear advantageous and the elongated column can assemble in but little more time than that required for foot infantry column. A cavalry column in gallop can assemble more rapidly. Yet, today the preparation for combat, the artillery movement to positions, and battle reconnaissances require such a period of time that a few minutes more or less required for assembly play no large role.

(2) Daily march capacity. — The 120 to 150 miles per day given in numerous books is a figure of little significance. What is important is the maximum day's accomplishment, using alternate drivers, travelling 20 hours a day for one day, or at most two days. By such calculations and travelling 9 to 25 miles per hour we reach a distance of 180 to 480 miles, that is, so great that this maximum can seldom be utilized. New types of combat and the necessity of crossing rivers will nearly always bring an early halt to, or stop the movement. During night hours when the moon is full, the suspension of motor movement may be necessary. Motors can operate 24 hours per day, but such continuous pounding greatly lessens their lives.

A brief comparison between yesterday and today will demonstrate that the envelopment or turning movement of today requires an extraordinarily wide movement. In the past century when fronts were scarcely over 6 miles in length, the rapid-moving element (cavalry) could move across country and envelop the hostile force in a battle lasting ordinarily less than a day. For such purposes the horse had an excellent speed and cross-country mobility. Today, however, the battle front is many miles long and the battle extends over several days. Likewise, we must reckon with increased fire-power. A 24-hour march takes only a fractional part of the time consumed by the modern battle.

From the tremendous difference in the rates of march of motor and horse arises the necessity of transporting animals (of 600 to 750 pounds in weight) by motor with the motor column. Such experiments have been made by U.S. cavalry.

(3) Amount of fuel. — Much has been written about the tremendous amounts required for large motorized commands, as a consequence of which many false conceptions have arisen. A brief comparison may be in order. About 45 pounds of fuel will transport one or two tons of pay load or 15 riflemen 60 miles. Fifteen cavalymen require for a 60-mile march, 2 days at 30 miles per day, 30 forage rations, which, reckoned only at $7\frac{1}{2}$ pounds (hay not considered) each, total some 225 pounds, or about five times the fuel weight required by the motor. Moreover, on both days of rest and days of combat the horse requires food. Perhaps he can be provisioned from the land, but only in small units and for a short time. Stressed immoderately is the fact that the horse can continue for some time without food. The motor can be provided with an "iron ration."

(4) Sensitiveness to air attack and artillery fire. — A motor column travelling with increased distances is as little sensitive to air and artillery attack as a well schooled cavalry unit which can move across country when these dangers arise. Artillery firing on a motor column will find a moving and very temporary target. An air attack across the moving column does not promise great success. A low attack by planes should prove very costly to the air unit.

The dismounting and dispersing of the motorized infantry requires only a few seconds more than the dispersion of marching infantry or cavalry.

Moreover, greater dispersal is obtainable from motors because the column is much longer.

(5) Transition from march to combat and vice versa. — The 10 to 14 riflemen who ride on the two side seats in a light truck can detruck from the halted vehicle, place themselves at a distance of 10 to 12 yards from the truck and be ready to fire in 7 or 8 seconds.

Detrucking and entrucking from 5 to 7-ton trucks requires more time: to detruck about 18 seconds, to entruck about 30 seconds.

In comparison the following times have been found necessary for cavalry preparations. From the halt to dismount, take a distance of 10 to 12 yards and be prepared to fire.

(a) When riding by threes or sixes the cavalymen nearest the horseholder is ready in 9 seconds, the others require 15 seconds.

(b) When riding by twos the non-horseholder is ready in 7 seconds.

(c) A mounted patrol of 4 men, riding with 10 yards distance, can dismount, each hold his own horse and be ready to fire in 10 seconds, or can remain mounted and be ready to fire in 9 seconds.

Obviously, the infantry in trucks is at some disadvantage against a surprise attack. On the other hand, the distance between trucks and the single line produce a lessened sensitiveness to attack from the flank. The rear of the column will be protected by a rear guard or rear point.

(6) Reconnoitering (combing) of terrain. — Today we have surprisingly favorable experiences as to the cross-country capabilities of motor vehicles. But the time of year, the type of ground, and the mass of motor vehicles that various types of ground will support all play their part in any judgment of cross-country motor mobility. Tanks are not limited to roads but they are stopped by woods.

In open, thickly settled areas where roads or trails are in abundance, no one will deny that light tanks or motorcycles can satisfactorily perform reconnaissance missions and determine whether or not effective hostile units are present. Even in a thinly settled but fairly open terrain the light tank can perform as well, if not better than mounted men, the necessary reconnaissance.

But in wooded areas, where roads and trails are scarce, the mounted man is valuable, in fact, indispensable. It is he who can comb the area thoroughly, easily and with relatively little noise. It is here that the well-trained cavalymen and horse, transported by truck to the indicated area, play their large part, not that of combat, but that of reconnaissance and only a few mounted men will suffice for this purpose. The combat will be taken over by motorcycleists, tanks and motorized infantry.

(7) Road congestion. — An advantage accrues to the motor column for with its trucks travelling with considerable distance between vehicles, and its consequent flexibility, congestion and blocking will not occur so frequently as with horse-drawn vehicles. Motor columns can cross one another. It is only a question of a certain loss of time.

(8) Motor noises and lights. — Experience has shown that several hundred tanks have been concentrated near the enemy without detection (Cambrai, 20 November 1917). For tanks special type mufflers must be provided to reduce exhaust noises. Other means of camouflaging the motor noises of tanks nearby are possible, such as air activity and the use of noisier motors in other areas and by artillery fire.

By employing blue glass, lights can be so dimmed that even at fairly close ranges they can not be distinguished from the front. By properly employing such lights no flickering beams will disclose the approach of the vehicle; yet they will permit a close study of the adjacent terrain.

(9) Splitting or separation of the elements of the motor column. — It is comparatively easy for vehicles or sections of motor columns travelling with great distance between vehicles to become separated or to take the wrong route. To avoid such errors the following means of correction and assistance are advisable: thorough training of drivers in the reading of road maps and sketches; placing large white geometrical figures on the rear of each truck, different figure for each unit, company, battalion, etc.; blocking off roads not to be used, employing motorcycleists as guides and directors.

(10) Breakdowns or forced stops of vehicles. — The greatest obstacle to the employment of the commercial type vehicle in military operations are that these vehicles get stuck on soft roads, negotiate steep grades with extreme difficulty or not at all and are very sensitive to road and bridge destruction by the enemy. It is true that horse-drawn vehicles and small four-wheel drive or six-wheel trucks will overcome these difficulties more readily. But the core of the problem lies in the utilization of the commercial vehicle for military purposes. How can the mass of these vehicles accomplish satisfactorily a day's march during which 20 to 50 small and large obstacles, destructions, etc., are encountered? We may presuppose that all bridges, culverts, etc., are destroyed, but that also presupposes that sufficient time has been available to the enemy for such destruction, and that he has utilized fully his opportunity. Motor columns can ordinarily detour (overland) one or two bad spots. But a thorough test of capabilities should be made, especially since in most terrain destructions and obstacles will be confined to bridges over small streams, culverts, and similar features. Large, unfordable rivers do not occur every few miles.

A technique must be developed which will overcome these handicaps. Equipment must be developed and tested. For instance, the use of ropes and pulleys, both hand and motor operated. It should not be difficult to protect both motor and loads, by proper covering and packing, against water seeping in. To what depth fording by this means is possible we don't know, but we should learn.

A motor column should perhaps transport with it material to assist in crossing soft spots, to repair bridges and even to construct bridges. Tractors accompanying (on truck) the column would prove invaluable in hauling material over bad stretches and across country. This matter of having material at the area of use and on time will be thoroughly understood by anyone who has actually participated in pursuit. The actual employment

of the material in bridge repair, construction, etc., were of small consequence compared to the difficulty of getting it up early.

Tests should be made to determine the relative efficiency of animals (truck transported) and small tractors (truck transported) in getting trucks out of the mud and soft spots.

What is the place of the horse and rider in this "new rapid force"; what will their tasks be?

It has been the history of war in the past that the cavalry horse, pampered and carefully provided for in peace time, has fallen victim to the vicissitudes of war; hunger, saddle sores and continuous exposure have decimated the mounted units as though a pest had struck, in consequence of which the marching capacity of the cavalry was decreased to or below that of infantry.

Therefore, in time of peace the following measures must be taken to prepare the horse for the rigors of campaign:

(1) Breed horses, wiry and strong, weighing not over 700 pounds, suitable for transport by truck.

(2) Cause the animals to undergo fast or hunger periods, at the same time doing full time work.

(3) Accustom them to winter cold. Have no stalls. Provide protection against the wind and rain, but no more than that afforded by the canvas top of a truck.

(4) Protect the winter coat of the animal. Instead of the curry-comb, use the vacuum cleaner.

Favorable results have been obtained with the vacuum cleaner, but its use has been forbidden because combing and brushing further discipline, and improve the skin and digestion (hunger periods would improve the digestion process).

Employing the vacuum cleaner would release more grooms for combat training.

Short-haired animals should be eliminated for military purposes.

(5) The greatest weight of the mounted men should be 135 pounds.

(6) The horse should be trained for both riding and draft purposes.

(7) Competitions, simulating war conditions, using the following rules:

(a) Time of competitions: November to March, in snow and rain. No stalls.

(b) Previous and continued hunger periods.

(c) Animal transport by truck. Loading and unloading tests.

(d) Use of animals in pulling trucks on roads and out of bad stretches.

The author offers an example (in general) of the possible organization of an infantry battalion (truck transported).

Attached to the battalion should be a number of motorcycles, small tanks and tractors.

Each rifle and machine-gun company to be provided with about 18 trucks, which will transport personnel, equipment and supplies.

To each company, and to the staff section, an additional four trucks, each transporting three horses, together with riders.

The animals are to serve the following purposes:

(1) Pull trucks out of holes, around bad stretches, etc.

(2) When the battalion marches afoot to move the combat trains (small, perhaps trailer type, vehicles).

(3) To provide reconnaissance during foot march.

(4) To mount the unit commanders.

(5) Where the opportunity arises to group all the mounted men into one organization (reconnaissance and security).

It will be noted that these mounted men are not a cavalry unit, rather an all purpose unit.

All told the battalion will have some 80 trucks. The large number of drivers (truck and motorcycle) can be trained in infantry pioneer duties and in partially stable situations effectively employed as such.

Chauffeur and mounted man! Both have much to do.

ARMORED, MECHANIZED AND MOTORIZED UNITS OF FOREIGN ARMIES.

1937 IN RETROSPECT.

[Panzer-, mechanisierte und motorisierte Verbände fremder Heere.

Ein Rückblick auf 1937.]

(See digest, C&GSS Quarterly, June 1938, page 97.)

April 1938

TANKS — ARMORED RECONNAISSANCE VEHICLES AND THE DEFENSE

AGAINST THESE.

[Panzerkampfwagen — Panzerspähwagen und die Abwehr dagegen.]

New French Renault tank. — "De Militaire Spectator" describes the new Renault, which shall serve as an infantry accompanying tank. It weighs 12 tons; carries one 37-mm cannon and one machine gun; has a speed of 14 miles per hour with armor of 25-mm to 30-mm (about one inch). Its crew consists of two men.

Rapid tanks in Poland. — "Revue d'Artillerie" reports these tanks which weigh 2.43 tons, are 2.58 yards long, 1.78 yards wide and 1.31 yards high. A 40 horse power motor provides a road speed of 27 miles per hour; a cross country speed of 11 miles per hour. They are capable of climbing a 45° slope, of traversing water 20 inches deep, and use 7 gallons of gasoline per 60 miles. Each has a crew of two men, is armed with one machine gun (with 2,360 rounds of ammunition) and has armor plate 3-mm to 8-mm thick.

Russian heavy tank "M 1." — "Krassnaja Swjesda" reports as follows on this tank type. In the main turret are a cannon and a machine gun. In

each of two smaller, forward turrets are a heavy and a light machine gun. Its weight is 18 tons; crew, 6 men. With a 250 horse power motor it has a road speed of 27 miles per hour. Length: 7.2 yards; breadth, 2.73 yards; height, 2.93 yards. Climbing ability: up to 43 degrees; able to knock over trees 4 yard in diameter; can cross water 1.2 yards deep and ditches (deep) 2.1 yards wide. Each tank is equipped with radio and each is gas proof. Their mission is the immediate support of infantry.

The new English mobile armored division. — According to the "United Services Review" the new "mobile division" will be organized as follows:

One tank brigade with 4 tank battalions

Two cavalry brigades with 3 light tank regiments each

One artillery brigade

Motorized infantry

Motorized engineers

Motorized signal units

Motorized supply elements.

This division will be assembled for the first time during 1938 and will undergo tests at Salisbury Plain.

Other reports indicate that each of the five home divisions will be organically assigned a tank battalion, and that a new army tank battalion will be organized. For this last purpose a cavalry regiment will be brought home from India.

Four light tank regiments are to be provided in India.

Employment of tanks in the defense. — "La France Militaire" deals with this question. According to the discussion tanks in the defense are employed:

(1) In counterattack.

(2) For mobile antitank defense.

It is contended that the 25-mm antitank weapon is neither numerous enough nor mobile enough. On the other hand, the cannon of the tank is admirably suited as a defense weapon against tanks. Because of the tank's mobility, a rapid assembly of these vehicles at a threatened area should provide a massed defense. But such employment must be planned and prepared.

Tanks are equipped with cannon so that they can combat tanks; they are not made mobile in order to move to a fixed defense position. Tanks employed in the defense must employ their mobility in order to strike (with fire) hostile tanks at a disadvantage.

French views on antitank defense. — Utilization of terrain and tank mines: When the defender places himself behind natural obstacles, ordinarily the enemy has the better observation. The preparation of obstacles against tanks, i.e., trenches, mines, felled trees (abattis), requires much work and time. On a 1,000 yard front a tank mine field can be laid by 30 men in 8 hours, but infantry and cavalry are not especially trained for this work. It is questionable whether an adequate number of mines can be provided and laid in the time available.

Consequently, the most effective weapon against tanks is the antitank gun. The equipping of French units with greater numbers of 25-mm antitank weapons is to the French mind a most salutary measure. This weapon, employed in conjunction with obstacles, forms the backbone of the antitank defense. It should not, however, be employed in a linear defense nor as individual guns; such employment invites penetration at the weak areas and consequent envelopment.

To avoid dispersion in the defense, there should be retained a reserve of antitank weapons, held in readiness on good routes along which they can advance for employment in accordance with the hostile tank situation. Only thus are retained the necessary mobility and elasticity of the antitank defense.

In order to counterbattery effectively the artillery supporting the tank attack, the defender's artillery should be reinforced.

Superheavy machine guns. — The following table, taken from "Revue d'Artillerie" (November 1937) shows a comparison of the characteristics of various superheavy machine guns:

Kind	Caliber in MM	Muzzle Velocity (Meters)	Range (Meters)		Rate of Fire per Minute	Weight of Gun (Kilograms)	Weight of Bullet (Grams)
			Horizontal	Vertical			
Fiat	12.0	900	.....	.....	.....	220	40
Fiat	12.5	940	.....	.....	.....	120	40
Vickers	12.7	914	6,400	5,000	350-450	280	45
Browning	12.7	800	8,200	2,000	550-660	165	52
Browning	13.2	800	9,000	2,000	.....	165	52
Hotchkiss	13.2	800	7,000	3,000	180-250	130	50
Scotti	13.2	850	.....	.....	400	.....	52
Breda	14.0	1,000	5,000	4,000	200	100	60

NOTE: one ounce = 28.3495 grams
one kilogram = approximately 2.2 pounds.

May 1938

MOTORIZATION OF THE ARMS. NEW CONCEPTIONS OF ORGANIZATION, EQUIPMENT AND EMPLOYMENT IN FOREIGN ARMIES.

[Die Motorisierung der Waffen. Neues über Gliederung, Ausrüstung und Verwendung in fremden Heeren.]

Motorizing the English infantry. — The first battalion of the South Staffordshire Regiment was exhibited with its new equipment on 21 January 1938. The battalion consists of a staff company, to which belongs the heavy battalion weapons, and three rifle companies, each of four platoons. Each platoon consists of three groups (each group 6 men) and a motor truck. This truck transports the light machine guns and the antitank rifle.

To the staff company belongs the mortar platoon (4 mortars, caliber 76-mm), a truck and a special ammunition truck, an antiaircraft platoon. In the antiaircraft platoon are found also an antitank rifle and rolls of wire for use in antitank defense. The antitank rifle weighs 35 pounds.

The supply and transport platoon, belonging also to the staff company, has one car for the battalion commander, ten trucks and thirteen motor-cycles.

The battalion has at its disposal 33 trucks, on which 300 men can be transported. Therefore, in three trips the entire battalion can be transported 13 miles within 3 hours. Experiments are being made to produce a lower vehicle, which will permit closer approach to the front.

Motorization of the artillery in Bulgaria. — According to "Krasnaja Swjesda" a motorized artillery regiment of six batteries now belongs organically to the light division. Bulgaria has, in addition to the light division, 20 infantry divisions, one mountain brigade and 3 cavalry brigades. Especially of note is the motorizing of the medium artillery in Bulgaria.

Motorization in Russia. — Motorization and mechanization are making further progress in Russia. During the maneuvers in White Russia all supply services were motorized. It is worthy of note that in these maneuvers each infantry regiment had a company of swimming tanks, each division a battalion of tanks. Motorized and mechanized brigades participated. To each infantry regiment of the motorized brigade there belongs an artillery battalion and a tank battalion; such an organization permits employment on independent missions.

The motorized brigade is moved on cross-country motor vehicles. It is especially strong in machine guns and antitank weapons.

In the mechanized brigade we find 27 heavy and 225 medium and light tanks; also a motorized reconnaissance battalion.

Motorized units in the Italian maneuvers held in North Italy. — These maneuvers were held 2-6 August 1937, north of Treviso on the upper courses of the Piave, and Livenza; rather low terrain, with little differences in elevation. Although a very good road net existed, motorized movements off the roads were quite difficult. Because of high water, the streams could be crossed only at bridges.

A "rapid" division and a motorized division participated.

The purposes of the maneuver were as follows:

(1) To gather data concerning the use of roads by, and the supply of, motorized units.

(2) To regain freedom of action from a defensive position.

The situation provided for the advance of the 2d "Rapid" Division (Red), employing a strong advance guard. Blue moved his motorized division against Red.

The 2d "Rapid" Division consisted of two cavalry regiments, a Bersaglieri regiment (three bicycle battalions and a machine-gun company on motorcycles), an artillery regiment (two motorized and one horse battalion) and a tank battalion. Attached were reinforcing antitank, antiaircraft, engineer, supply and signal units.

The motorized division consisted of two infantry regiments, each of two battalions on trucks; a machine-gun battalion motorized; and a motorized artillery regiment. Attached were: a motorcycle infantry battalion, a tank battalion and reinforcing antitank, antiaircraft, engineer, supply and signal units.

All told, 16,000 troops, 2,500 horses and about 3,000 vehicles (motor) participated.

General Paviani's critique stressed the point that a war fought by Italy must be a war of rapid decision. For such a war motorization and mechanization are essential and it is such essential concepts that the War Ministry has had and now has in mind. The "rapid" division was followed by the motorized division. The organization of greater tank units is under advisement.

The consideration that a motorized division requires support when it is employed (tactically less mobile and with limited tactical reconnaissance and security means), whereas the "rapid" division is more mobile tactically, is much less sensitive to air and ground attacks and can adequately protect itself, has led to the decision by the Italians to organize a "Rapid Corps," in which one "rapid" and several "motorized" divisions will constitute organically this corps.

Rapid and motorized division — Tank brigade in Italy. — According to "La France Militaire" the following reorganization is proposed and is taking place in Italy:

The Italian "rapid" divisions will be augmented by modern armored reconnaissance car and other motorized and mechanized units.

In the future the cavalry regiments will consist of four squadrons and a machine-gun squadron (horse). The armored reconnaissance squadron ceases to be a part of the regiment.

The "motorized division" is augmented by a reconnaissance battalion and additional antitank and antiaircraft weapons.

The motorized and mechanized brigade will be reorganized into a tank brigade.

MARINE CORPS GAZETTE

June 1938

STREAMLINED FIGHTING TEAMS. Lieutenant Johnson
WILL THE HIGH COMMAND TAKE TO THE AIR? Lieut. Colonel del Valle

MILITARWISSENSCHAFTLICHE MITTEILUNGEN (Austria)

BY MAJOR E.M. BENITEZ, Coast Artillery Corps

January 1938

THE WAR IN THE FAR EAST.

[Der Konflikt in China.] General Wiesinger

A continuation of a previous article on the Sino-Japanese War. According to the author, by the victory at Shanghai early in November 1937, the invaders attained most of their objectives in North China. The rest of the article is devoted to the operations in Hopei province and the occupation of Taiyuan.

POLITICAL AND MILITARY REVIEW.

[Wehrpolitische Übersicht.] (I) Major General Paschek

A review of the world affairs during the second half of 1937.

February 1938

AN EIGHTY-FIVE-YEAR OLD MILITARY SCHOOL.

[Fünfundachtzig Jahre Kriegsschule.] Field Marshal Klepach Kirchner

The Vienna Military School celebrated its eighty-fifth anniversary on 1 November 1937. This training school for the Quartermaster General Staff of the Imperial Army was closed down at the outbreak of the World War. It was reopened in 1917.

MOTORIZATION AND MANEUVER.

[Motorisierung und Manövrieren.] Captain von Binzer

During the World War, millions of men fought for four years on the Western Front with unlimited resources, yet no definite results were achieved.

The development of the machine gun provided the defense with an ideal weapon with which to counterbalance advantages of the offensive. The extent of fronts and the number of men engaged made outflanking movements impossible. Both combatants hoped that artillery, the ideal attack weapon, would solve the problem; but artillery had to change position during the offensive and fresh reserves brought up by the defense eventually held up the attack. Then came the tank; this weapon, however, only offered a partial solution. The war showed that every form of attack can be neutralized by some form of defense. In the author's opinion, stabilized warfare is a thing of the past, and the next war, thanks to motorization, will be a war of maneuver.

POLITICAL AND MILITARY REVIEW.

[Wehrpolitische Übersicht.] (II) Major General Paschek

The author reviews the following world affairs, to include 10 January 1938:

- (1) The League of Nations.
- (2) Alliances of European powers.
- (3) The Sino-Japanese War.
- (4) The British Empire.
- (5) The Brussels Conference.
- (6) Trade and Commerce.
- (7) Rearmament.

General Paschek believes that Great Britain was never in a more critical situation, not even in the days of Napoleon, or during the World War.

The strength of the army, navy and air force of all major powers is shown in tabulated form.

THE CIVIL WAR IN SPAIN.

[Der Bürgerkrieg in Spanien.] General Wiesinger

This article is the fifth instalment of the author's account of the Spanish Civil War, describing the Insurgent operations in Asturias.

In view of later events, the author's conclusions in regard to the effect of the Government counteroffensive at Teruel last December, are erroneous.

March 1938

AIR RAIDS AND THEIR EFFECTS.

[Luftangriffe und ihre Wirkungen.] Colonel Schöbel

There are at present three types of bombs in use, which, in order of destructiveness are as follows:

- (1) High explosive (with contact or delay-action fuse).
- (2) Incendiary.
- (3) Gas.

In the Italo-Abyssinian War there was a scarcity of targets. In the Spanish Civil War, Franco being a Spaniard, has tried to save the main buildings of Madrid, and for this reason this city has suffered comparatively slight damages only. Far more serious damages and many more casualties must be expected in future wars.

Both in China and Spain, only high explosive bombs have been used; gas bombs have hardly been used at all, and in view of their comparatively slight destructive effect their use may be discontinued altogether.

Suitable protective measures can be taken against all but high explosive bombs; but even the effects of the latter can be minimized if proper protective steps are taken. It is very important to anticipate events and take the necessary precautions ahead of time.

ANTI-AIRCRAFT WEAPONS AND THEIR EMPLOYMENT.

[Fliegerabwehr-Waffen und ihre Verwendung.] Major Krziwanek

There are four kinds of anti-aircraft weapons: guns, heavy machine guns, light machine guns and searchlights.

Anti-aircraft guns may be classified as follows:

Light guns (up to 80-mm caliber)

Medium guns (up to 100-mm caliber)

Heavy guns (over 100-mm caliber).

The heavy guns are mounted on rails, while the light and medium types are either motorized or mechanized.

Heavy machine guns are ordinarily of from 25-mm to 40-mm caliber. A direct hit by the 37-mm or the 40-mm can bring down an airplane, but smaller shells cannot be depended upon to do so.

Light machine guns — calibers from 12.5-mm to 20-mm — are particularly useful against low-flying aircraft.

EXPERIENCES IN AIR RAID PROTECTION.

[Luftschutzerfahrungen.] Lieut. Colonel Trimmel

Very little is known today from practical experience of the effect of incendiary bombs and shells, because the experience of the civil population during the World War as regards air warfare, was very limited. The Germans used incendiary bombs against Rheims, but the fires caused by them were easily extinguished. The effect of the incendiary shells that will be used in the future is yet to be determined.

On the other hand, much is known about poisonous gases and with timely preparation and training, effective protection against gas attacks can be obtained.

CAMOUFLAGE AND BLACKOUTS.

[Tarnung — Verdunkelung.] Lieut. Colonel Schörgi

Natural camouflage methods consist of planting trees to make roads and buildings less conspicuous to air observers. Artificial means consist in using nets and shadow outlines. Roads and roofs should be of a dark color; bright tints should be avoided. Complete blackouts is the best protection at night.

PRECAUTIONS AGAINST GAS ATTACKS.

[Brandschutz im Luftschutz.] Major General Zar

Gas attacks may be effected either by means of bombs or by spray from airplanes. According to the author, a gas attack will come after an air raid of high explosive bombs in order to prevent or interfere with the salvage work.

PHYSIOLOGICAL EFFECT OF GASES.

[Gift- und Gaskampfstoffe und ihre physiologische Wirkung.] Lieut. Colonel Mader

A description of the effects of various gases on the human system.

GAS PROTECTION OF THE CIVIL POPULATION ABROAD.

[Gasschutz der Zivilbevölkerung im Auslande.] Major Hirsch

Most countries in Europe are taking precautionary measures against air raids and have adopted gas masks for the protection of the population.

Suitable types are the Swiss C mask, the German VM 37 and the Russian GT 6, as well as the Italian and Czech types.

ANTI-AIR RAID BUILDING CONSTRUCTION.

[Über bautechnischen Luftschutz.] Colonel Bodenstein

Roofs should be constructed of reinforced concrete, or of a non-inflammable material, as a precaution against incendiary bombs. Steel frame buildings are suitable types. Well-built shelters for the population are necessary.

AIR RAID SHELTERS.

[Der Schutzraum.] Major General Palla

Air raid shelters should offer protection against high explosives, gas and incendiary shells.

Shelters should be built in basements, completely underground if possible, and should not accommodate more than 50 persons. Each person should have an air space of from 105 to 140 cubic feet and a floor space of about 7 square feet. The author offers suggestions for design of a shelter and for its ventilation.

MILITAR-WOCHENBLATT (Germany)

BY MAJOR E.M. BENITEZ, Coast Artillery Corps

1 April 1938

THOUGHTS ON THE DURATION OF FUTURE WARS.

[Gedanken über die Dauer von Zukunftskriegen.] Major Mende

COOPERATION BETWEEN INFANTRY AND ARTILLERY.

[Zusammenwirken von Infanterie und Artillerie.] Lieut. Colonel Lancelle

This important question will always be the subject of discussion, because cooperation between the two arms never attained perfection during the World War.

The artillery officer must visualize the situation of the infantry officer. The main difference between infantry and artillery is that in the infantry each man fires a weapon, while in the artillery only one man directs the fire — the battery commander — who in turn is subordinated to the battalion commander. All other men perform subordinate duties.

Artillery should not be subordinated to the infantry, but both should work in close cooperation.

The infantry regimental commander indicates to the artillery battalion commander the assistance required by the infantry, leaving the artillery commander freedom of execution.

The main value of an artillery battalion lies in the fact that the fire of all batteries can be concentrated where the infantry regimental commander desires it most. The performance of the artillery mission — above all, the sudden concentration of all batteries on a particular sector — requires the energetic supervision of the battalion commander. The effectiveness of artillery fire is of such great importance that it justifies the granting of independent action to the artillery battalion. No special missions should be assigned to batteries.

AIR ATTACKS ON GROUND TROOPS.

[Fliegerangriff auf Truppen und seine Abwehr.] Lieut. Colonel Greiner

The author divides this subject into three parts:

(1) Attack on troops while entraining. — The object of this attack may be the destruction of railway installations, so that they may not be available for loading troops. Such an attack will also disrupt train schedules. The troops must organize a system of aerial surveillance, but fire should only be opened when ordered by officers.

(2) Attacks against troop trains in movement. — While travelling in open cars, every available machine gun should be in readiness to repel the air attack.

(3) Attacks against troops at the moment of detraining. — The same precautions must be taken as when entraining troops. It must be remembered, however, that it will be easier for the enemy to detect these movements, because they will take place closer to the front. It is highly desirable that troops detrain at night, but even so, anti-aircraft defense is impracticable.

THE CYCLIST SQUADRON IN THE RECONNAISSANCE UNIT.

[Die Radfahrerschwadron in der Aufklärungsabteilung.]

The author compares the efficiency between the cyclist squadron and the cavalry platoon, which form an organic part of the division reconnaissance section.

According to German Field Service Regulations and to German leading military thought, the cyclist squadron has three missions to perform:

- (1) Security missions.
- (2) Combat missions.
- (3) Messenger service.

Regulations prescribe that cyclists may be attached to mounted reconnaissance platoons.

According to the author, cyclists can travel from 25 to 30 miles per day, while a mounted platoon requires 10 hours to cover the same distance and at the end of the journey the cyclists are fresher than the horsemen. While it is true that cyclists cannot be employed where roads are not available, yet enemy movements in such sections can hardly be expected.

Does the cyclist offer a better target than the cavalryman? Neither can observe well, while in movement. However, in a sudden encounter the cyclist will have the advantage. Even at a few yards distance, the cyclist can throw himself on the ground, take cover and commence firing. The cavalryman always offers a target, whether or not he gets off his horse or zigzags at a gallop. In an encounter between a cyclist and a horseman, the mounted man is lost.

The cyclist also possesses advantages in reconnaissance and surveillance, as he can stop anywhere, lay his bicycle on the ground and observe. At night he can move faster than the mounted trooper and without lights or noise.

TREND OF THOUGHT ON INFANTRY QUESTIONS IN THE UNITED STATES.

[Infanteristische Fragen in amerikanischer Beleuchtung.]

THE SPANISH WAR: THE RECAPTURE OF TERUEL; THE EBRO RIVER DRIVE.

[Vom spanischen Krieg: Die Wiedereroberung von Teruel; Der Durchbruch südlich des Ebro.] Colonel v.Xylander

An account of the Insurgent operations that led to the recapture of Teruel and the beginning of the drive to the sea to include the capture of Caspe on 16 March 1938.

8 April 1938

THE SUBMARINE WAR IN 1915.

[Der Ubootskrieg des Jahres 1915.] Admiral Bachmann

GROUND ORGANIZATION OF THE AIR FORCE. PROTECTION OF AIRPORTS ACCORDING TO RUSSIAN VIEWS.

[Die Bodenorganisation der Luftwaffe. Der Schutz der Flughäfen (nach vorwiegend russ. Theorien).] Colonel Nagel

Sentries should warn the antiaircraft forces sufficiently ahead of time, at least three minutes. A rifle and machine-gun section should constitute the defense nucleus.

Camouflage must be extensively used, dummy roads will be imitated by spreading lime or sand, while particular attention should be given to camouflaging the actual roads, so that they will not show the location of the airport. All hangars, antiaircraft positions, and other defensive means will be kept well concealed.

Dummy airports will be provided at a safe distance from the true post, and their installations should be made plainly visible to enemy aviators in order to attract their attention and deceive them.

The efficacy of enemy attack can be minimized by spreading out the installations, placing camouflaged planes either single or in groups at the extremities of the field, with a distance of from 100 to 200 yards between the matériel and munitions. Steps should be taken to have means at hand to repair without delay craters caused by enemy bombs.

Diversity of opinion exists concerning underground hangars. The French are against them.

15 April 1938

THE INTELLIGENCE SERVICE, FROM THE ITALIAN POINT OF VIEW. [Der militärische Nachrichtendienst (Nach italienischen Ansichten).]

It is necessary to obtain information concerning other nations in order to prevent surprises in time of war. The main subjects to be considered are political, economic and military matters. This information will make it possible to draw certain conclusions that will define the attitude that a certain nation will take under special circumstances.

The personnel of the intelligence service should possess suitable requirements, the most important of which are: tenacity, ability to observe, mental alertness, decision, and a highly developed sense of patriotism.

During war, intelligence data is obtained by means of submarines, wireless and similar means of information.

MILITARY ENGINEER

July-August 1938

EQUIPPING FOR ATTACK OVER RIVERS. Lieutenant Thompson

THE REORGANIZATION OF THE BRITISH ARMY. Major Reynolds, British Army

STRATEGIC MINERAL SUPPLIES. 14. DOMESTIC SELF-SUFFICIENCY. Major Roush

MILITARY SURGEON

April 1938

THE ORGANIZATION AND ACTIVITIES OF THE MEDICAL DEPARTMENT OF THE ARMY. THE IMPORTANCE OF MEDICINE IN NATIONAL DEFENSE. Major General Reynolds

THE ITALIAN MEDICAL SERVICE DURING THE CAMPAIGN IN ETHIOPIA. Major Huard, French Army

May 1938

THE ORGANIZATION AND FUNCTIONS OF THE MEDICAL SERVICES IN COMBINED OPERATIONS OF LAND AND SEA FORCES. (I) Captain Mann, and Lieut.Colonel Hume

June 1938

THE ORGANIZATION AND FUNCTIONS OF THE MEDICAL SERVICES IN COMBINED OPERATIONS OF LAND AND SEA FORCES. (II) Captain Mann, and Lieut.Colonel Hume

July 1938

CONTRIBUTIONS OF THE WORLD WAR TO THE ADVANCEMENT OF MEDICINE. (The Wellcome Prize Essay, 1937) Major Frisch

PHYSICAL THERAPY IN THE NEXT WAR. Captain Lowman

NAVAL INSTITUTE PROCEEDINGS

June 1938

THE DISTURBING OUTLOOK IN THE ORIENT. Captain Knox

THE THREE-MILE LIMIT OF TERRITORIAL WATERS. Lieut.Commander Hilbert

THE MOST SLANDERED MAN IN HISTORY. Smith

July 1938

JAPAN'S RISING SUN. Lieutenant Eller

THIS NAVAL RACE? Lieut.Commander Hamilton

THE REBEL RAMS. Pratt

August 1938

HWANG TSAO. Lieut.Commander Howell

LESSONS LEARNED AT SHANGHAI IN 1932. Lieut.Commander Smith Hutton

PIONIERS (Germany)

BY MAJOR E.M. BENITEZ, Coast Artillery Corps

February 1938

LAND FORTIFICATIONS.

[Gedanken zur neuzeitlichen Landesbefestigung.] Colonel Dittmar

Based upon the experience gained in the World War, the French have developed the so-called "fortified regions" (regions fortifiées) defense system in which concrete and steel are extensively used.

Each "region fortifiée" must fulfill the following conditions:

(1) The extent of the front must be such that an attacker cannot outflank the position, nor can the enemy's artillery prevent movement of troops within the fortified zone.

(2) Strong flanks, either resting on terrain features or artificial strongholds.

(3) Excellent communication network, insuring rapid movements within the zone and also rapid communication to the rear.

(4) The front must be fully protected and strengthened by either natural or artificial obstacles.

(5) Comfort must be provided for the garrison by the construction of living quarters and other conveniences. This will assure rest during the fighting and at rest periods.

In former times, fortresses were held as a matter of honor and of national glory. Many sieges have caused heavier losses than those of battle lost in the field. These ideas, however, have gradually changed. Thus we see the abandonment of Reims and La Fère before the first battle of the Marne, and the abandonment by Hindenburg and Ludendorff of the fortress of Lötz before the battle of Tannenberg.

The relationship between the field army and the fortification system is at present, very close, and the land fortifications of today possess many advantages over those of former times.

THE TRAINING OF ENGINEER LEADERS AND MEN.

[Schulung von Pionierführern und Truppe.] Lieut.Colonel Dittmar & Colonel von Schawen

Engineers in an advance through close country. — An account of some tactical exercises carried out by the 22d Engineer Battalion, in the region northeast of Bremen.

Attack of a river line. — A similar account of a tactical exercise carried out by the 19th Engineer Battalion with its bridging equipment.

LAYING RIVER CABLES IN THE RHINE.

[Verlegen von Fluszkabeln in den Rhein.] Captain Schroder

A description, illustrated by photographs, of the work carried out by the 3d Motorized Company of the 5th Engineer Battalion, laying river cables over the Rhine, at Constance.

The work was done by constructing a ponton bridge, laying the cable out on the bridge deck and sinking them gradually by passing them over a drum, while dismantling the bridge, by sections, from south to north.

NEW METHODS FOR CROSSING RIVERS BY MOTORIZED UNITS.

[Neue Wege zum Flussübergang der motorisierten Einheiten.] Major Hartung

A continuation of an article published in November 1936.

The author's idea is to construct a bridge consisting of two steel-wire cables, on which motor vehicles could ride if provided with a special device attached to the outside of each wheel.

In this instalment, Major Hartung proposes the use of two amphibious tanks, each of which carries a drum around which cable is wound. The drums are rotated by the tank engine and the cable can be paid out or wound up mechanically. The tanks take up their position on opposite sides of the river, with the two cables stretched out from one to the other. The tanks are secured to the ground by means of steel piles driven through openings in the floor and they are further supported by struts.

This idea has not yet been tested in practice and some modifications may be necessary to insure satisfactory results.

QUARTERMASTER REVIEW

May-June 1938

THE ROLE OF THE NETHERLANDS IN THE WORLD OF TODAY. Dr. Van Aken

PLANNING BRANCH, CONSTRUCTION DIVISION, OFFICE OF THE QUARTERMASTER GENERAL. Captain Lamb

A COMMERCIAL VIEWPOINT ON THE ARMY'S MOTORIZATION PROGRAM.
Lieut.Colonel Rockwell

MASS PROCUREMENT OF SUPPLIES FOR WAR. John Millea
July-August 1938

AIR-FED ARMIES OF TOMORROW

THE SUPPLY OF AN INFANTRY DIVISION IN DEFENSE. Lieut.Colonel
Lederer

RASSEGNA DI CULTURA MILITARE (Italy)

(Formerly "Rivista di Artiglieria e Genio")

BY MAJOR E.M. BENITEZ, Coast Artillery Corps
January 1938

(Commencing with this issue, the "Rivista di Fanteria" and the "Rivista di Artiglieria e Genio" have been combined and will appear as one publication. However, the parts dealing with artillery, engineer and infantry subjects, are kept separate from the general matters section.)

WAR AND PEACE.

[La guerre e la pace.] General Corselli

For over more than 3,400 years, beginning with 1496 B.C. to the outbreak of the World War in 1914, many attempts have been made to settle international affairs by conciliation and mediation. The League of Nations and the Kellogg Pact, among others, have resulted in failures. History shows that war is inevitable, and human passions and national interests will predominate over all the methods created to prevent war.

"War," says Mussolini, "is a phenomenon which accompanies the development of mankind. It is a tragic destiny that will always weigh upon men's shoulders." Pacifism, on the other hand, is not a blessing either.

War is a social tonic which stimulates the energy of a race and the national virtues; it destroys all political, social, psychological and moral impurities that accumulate in times of peace.

Modern war is totalitarian in character and requires the preparation of the entire nation for war.

A BIRD'S-EYE VIEW OF THE YEAR 1937.

[L'anno 1937-XV in una rassegna panoramica.]

A summary of the chief events of the past year in Italy and abroad. Considerable progress has been made, according to the author, in Italy. The budget has been balanced and the army, navy and air force have been reorganized.

In regard to the army, the XX Corps was created and sent to Lybia, organized to suit the special conditions there. Improvements have been made in the organization of the "fast" division, the motorized division, the moto-mechanized brigade and the cavalry regiments. The army has been provided with the recently adopted machine gun, antiaircraft gun 20-mm, 47-mm antitank gun, 81-mm mortar for the infantry and the 75/18 batteries for the division artillery and for the artillery of the fast division.

The war of "quick decision" is not an empty phrase, but a doctrine which depends upon a quick and determined preparation.

In the navy, two new 35,000-ton battleships have been constructed — the Vittorio Veneto and the Littorio — to which should be added the cruisers Cavour, Cesare, Doria and Duilio. The Italian Navy, when the present program is completed, will have a total of 620,000 tons, consisting of the following ships: 6 battleships, 7 heavy cruisers (10,000 ton), 14 light cruisers (5,000-8,000 ton); 15 destroyers; 44 torpedo chasers, 36 torpedo boats, 98 submarines and auxiliary ships.

THE NEW TRAINING REGULATIONS.

[Il nuovo regolamento di istruzione.]

These regulations supersede those published in 1930.

THE PRESENT TREND OF NAVAL ARMAMENT AND THE CHARACTERISTICS OF THE NAVIES OF THE FUTURE.

[L'attuale corsa agli armamenti e le caratteristiche delle flotte del futuro.] Consul-General Ginocchietti

A review of the comparative strength of the six principal naval powers, as follows:

	Battle-ships		Cruisers		Destroy-ers		Sub-marines		Aircraft Carriers		Total Tonnage
	*	†	*	†	*	†	*	†	*	†	
Italy	6	2	19	41	105	106	1	1	1	1	610,000
France	6	4	20	85	89	1	1	1	1	1	715,000
Germany	6	3	9	7	56	36	2	11	1,814,919		
Great Britain	20	17	60	80	123	12	60	11	1,814,919		
Japan	9	6	32	6	131	11	51	6	905,000		
United States	17	10	27	135	81	64	34	6	1,416,000		

*Obsolescent.

†Modern, under construction, or projected.

According to the author, navies of the future will not differ, fundamentally, from those of the last half century. Battleships will continue to form the backbone of the fleet; there will be a large number of armored cruisers and destroyers, and even a larger number of submarines and a few aircraft carriers.

THE SINO-JAPANESE WAR.

[La guerra cino-giapponese.] (I) Colonel Oxilia

The history of the present war may be traced back to 1894, when the Japanese seized Korea. In 1900, the powers sent a strong contingent to China to suppress the Boxer Rebellion.

Russia had its revolution in 1917; China had hers in 1911.

Japan joined the Allies during the World War, captured Kiao-Chiau and obtained mandate over certain Pacific islands by the Treaty of Versailles.

Internal disorders in China gave an opportunity for Communist penetration from Russia. In 1925, Chiang Kai-Shek came to power and had to maneuver between Russian pressure on one side and Japanese expansion on the other. The present struggle is very similar to the situation in Spain — a fight between these two influences.

Japan's commercial expansion requires a market for her goods. She is strictly an agricultural country, and lacks coal and iron mines, oil and cotton, which are essential to her industries. China offers Japan a solution to her problems.

THE SPANISH WAR.

[La guerra di Spagna.] (I) Captain Mele

The revolt began in Morocco on 18 July 1936. The greater part of the army went over to the Insurgents, while the navy, with the exception of one battleship and four cruisers, remained loyal to the government.

By 1 August, the Insurgents had gained control of a large portion of Spain. Tolosa fell in August; Irun, in September, to be followed by San Sebastian and Toledo. The siege of Madrid began in October, where desperate fighting continued well into January. On 8 February, Malaga was captured.

DISTRIBUTION OF THE ENGINEERS OF THE ALPINE DIVISION IN A MOBILE WAR.

[I reparti del genio della divisione alpina nella guerra di movimento.] Colonel Cappusini

The Alpine Division consists of two Alpine regiments, one artillery regiment, one engineer company and service troops. The engineer company consists of five platoons, with about 200 specialists and 150 drivers. Their equipment consists of a light mountain bridge, 30 kilometers of wire, 3 searchlights and 12 radio stations. In the Alpine Division the engineers constitute only 2 per cent of the whole strength, as compared with 6 per cent in an ordinary infantry division. The author shows that the engineer strength is insufficient and suggests an organization consisting of two engineer companies specially trained for mining work, a signal company provided with telegraph wire and radio equipment and a searchlight section of six searchlights, the entire engineer force to be commanded by an engineer officer.

February 1938

A PORTUGUESE CHRONICLE OF THE EXPEDITION OF DON CHRISTOPHER DE GAMA IN ABYSSINIA.

[Una cronaca portoghese sulla spedizione di don Cristoforo de Gama in Abissinia.] (I) Prof. Naldoni-Centenari

The Portuguese expedition under Don Christopher de Gama, consisting of 400 soldiers, well trained and equipped with over 600 rifles, sailed on 9 June 1541. Da Gama's brother was Governor of the Portuguese East Indies. This Portuguese force was sent to help the Negus of Abyssinia against the King of Zeila.

THE SINO-JAPANESE WAR.

[La guerra cino-giapponese.] (II) Colonel Oxilia

In this instalment Colonel Oxilia gives a brief description of China, and then analyzes the strength of the armed forces of the two nations at the beginning of the war.

The causes of the conflict may be attributed to the strong anti-Japanese feeling after the establishment of Manchukuo in 1931, which led to many local quarrels between Chinese and Japanese troops.

The author believes that the original Japanese plan was to cut off all contact between Russia and China across the interior of Mongolia, and the occupation of the five provinces in North China: Hopei, Chahar, Suiyan, Shansi, and Shantung. At present it is hard to determine the Japanese plan.

The Chinese plan is even more difficult to follow. At first it appeared that the Chinese favored the operations at Shanghai, in order to split up the Japanese forces, but these operations assumed far greater importance than was anticipated.

ROADS AND MOTORS.

[Strade e motori: mentalità della motorizzazione.] Lieut.Colonel Dante di Marco

The importance of roads has become very evident in the last few years. Committed as we are to a war of short duration, it becomes necessary to have adequate roads to derive the benefits of speed offered by motor movements.

PALESTINE NOTES.

[Note Palestinesi.] Lieut.Colonel Raffaello Micaletti

Palestine was assigned to the British by the Council of the League of Nations. The author discusses the attitude of the Arabs and Jews towards the British administration and points out that Italy cannot remain as a disinterested spectator, because she has political, economic and, above all, spiritual rights in that region.

THE SPANISH WAR.

[La guerra di Spagna.] (II) Captain Mele

This instalment covers the Guadalajara offensive and the operations that led to the capture of Bilbao and Santander.

The author resents the fact that Guadalajara has been repeatedly described as an Italian disaster and devotes a large portion of the article to an eulogy of the Italian troops in Spain.

THE EVALUATION OF THE EMPIRE.

[La valorizzazione dell'Impero.] Captain Lucca

A discussion of the economic value of the Italian Empire, that is to say, Abyssinia and Italian Somaliland. The construction of five railroads are proposed. In general, the writer believes that the empire can be developed by the construction of roads and railroads.

OUR ARTILLERY IN 1915.

[La nostra artiglieria nel 1915.] General Argo

In a previous article, General Argo pointed out the condition of the Italian artillery in May 1915, when Italy entered the World War. The great shortage of guns and munitions handicapped General Cadorna in planning operations and eventually led to great disaster on the Piave in 1917.

The Trentino salient left a very narrow link between the Venetian provinces and the rest of Italy. General Cadorna's strategy was correct; however, with the required number of guns and adequate supply of munitions the problem should have been tackled in a different way.

RESERVE OFFICER

June 1938

CAVALRY TAKES TO WHEELS

REVUE DE CAVALERIE (France)

BY MAJOR L.K. TRUSCOTT, JR., Cavalry

January-February 1938

IS IT NECESSARY TO PRESERVE MOUNTED FORMATIONS IN THE CAVALRY?

[Faut-il conserver des formations à cheval dans la cavalerie?] Lieut.Colonel Dario

(See digest, page 41)

A REMISSNESS AT THE MOMENT.

[Une remise au point.] Lieut.Colonel Heurlier

The article attempts to cultivate interest in colonial service in Algeria, which, popular before the war, no longer appeals to the younger French cavalrymen. The author explains the effect of the war in reducing romantic attraction, and then points out the importance of work there during times of peace. The article contains comments on the nature of the country, service there, and an excellent discussion of native soldiers and methods of command and leadership.

THE MILITARY MOTORCYCLE.

[La motocyclette militaire.] Lieutenant Renault

This article, suggested by a similar one in the last number of "Revue de Cavalerie" on "The Crisis of the French Motorcycle," discusses technical features desirable in a military motorcycle side car. The author condemns the commercial models adopted for use at present, and advocates specially constructed designs for future use, including features of greater durability, power, three or more speeds, reverse, brakes on all wheels, two-wheel drive, protection of magneto and carburetor against water, accessible spark plugs, easily dismounted wheels, proper tires. The author thinks that such a side car would be preferable for military use to light commercial automobiles.

HORSE BREEDING IN THE REGION OF RABAT AND KHEMISSET.

[Elevage du cheval dans les régions de Rabat et de Khemisset.] Captain de la Brunelière

A brief sketch of the history of horse breeding in the districts of Rabat and Khemisset in Morocco, results obtained, and suggestions for its improvement.

THE BRITISH ARMY IN 1937.

[L'armée britannique en 1937.] By H.R.

The year 1936 was marked in Great Britain by a succession of events of exceptional importance, still fresh in memories. This article examines

rapidly the repercussions that the events should logically have and which they have had. The year 1937 saw an awakening of the nation characterized by financial sacrifices, intensive rearmament, general reorganization and modernization of the army.

I. — Financial and rearmament sacrifices. — In February 1937, Commons adopted a loan, divided over five years, of 400 million pounds sterling, to finance expenses of war, navy and air; an increase of 60% in budget compared to 1936.

II. — Reorganization. — Essential measures concerning the mobile division, the infantry division, the high command.

A. The mobile division is the most original and daring creation of the year. It comprises: 1 brigade of tanks of 4 battalions; 2 mobile brigades composed of 2 regiments of light tanks and a battalion of motorized infantry; 1 regiment of cavalry armored cars; mechanized horse artillery; motorized engineers and signal units.

B. The infantry division has the following characteristics: Regiment of division cavalry destined to constitute a reconnaissance group will be mechanized; infantry of the division is composed of 2 battalions of machine guns and 3 brigades of 3 battalions each; division artillery entirely motorized. The corps does not exist in peace but recent creation of corps signal units and machine-gun battalions forecast several army corps at beginning of war.

C. The high command, modeled on the French Superior War Council, will consist of nine members of whom four are military. Older officers have been replaced by younger men; the post of assistant chief of staff has been reestablished.

III. — Modernization of the army. — General structure of the British army has not been modified, but motorization and mechanization are being intensified. Until 1936, motorization was advanced only in artillery and communications; in the cavalry, engineers, and infantry, it was weak or nonexistent. Today, England contemplates an important motorization in the colonial army and total motorization in the metropolitan army. In the cavalry, the nine regiments of mounted units will be mechanized. The tank corps, in process of reorganization, will consist of one brigade of four battalions, one light and four mixed; three battalions of army tanks (infantry support), eight companies in India.

A French observer should guard against premature deductions concerning this general motorization. Mechanization has always been dear to British military men but it should be noted that the idea is supported by military and economic reasons special to Great Britain.

The military reasons?

First, England being an insular power, confines actual defense to navy and air. The ground forces at home have but a limited role. The army first of all is to protect the territories beyond the sea. In the metropolis only sufficient forces are maintained to permit rapidly mobilizing a corps of several divisions to intervene in colonial or European war. This corps by reasons of numerical weakness and reduced role should have a maximum of power. This power it will obtain by fire, protection, and mobility, which justifies total motorization and mechanization.

Second, given its insular situation, the extent of its empire, the difficulties encountered by ships necessary for supply, Great Britain should avoid a position war of long duration like 1914. Only motorization and mechanization can permit a vigorous offensive, a rapid decision.

Third, a motorized army requires numerous specialists difficult to recruit and instruct. But thanks to its professional soldiers, Great Britain can easily form these specialists. It has in this point a marked advantage over eventual adversaries.

These, briefly, are the military reasons that form the basis of actual ideas among British military men. Here are the economic reasons that reinforce them:

First, British resources in forage are reduced, resources in gasoline are inexhaustible.

Second, England is essentially an industrial country; motorization can but favor it over other countries.

Third, mechanized engines and carburants can be more easily transported than horses and forage.

Thus, economic and military reasons force the British army toward motorization and mechanization. Improvement in equipment and construction of new engines voted in February comprises tanks, armored cars, and tractors. The light tank (Vickers, Carden Lloyd) has a crew of three men, one Vickers machine gun, one antitank machine gun. The medium tank is armed with one cannon and three machine guns and a crew of five men. The infantry tank (in study) will be a tank of great fire-power and strong armor, power and protection that should enable it to exist under fire in order to accompany the infantry. The infantry tractor, considered as a cross-country transport vehicle, can transport a machine-gun squad and two guns. One of these guns will be able to fire during movement. The cavalry tractor is destined to transport combat squads. They can eventually serve as armored mounts for machine guns. Their role in battle will be to follow the light tanks and penetrate by infiltration between obstacles impassable for tanks. Finally, reconnaissance tractors are actually under consideration. All this equipment and new units were experimented with in maneuvers of 1937; maneuvers this year therefore have an exceptional importance. They have permitted the high command to draw interesting information in both tactical and matériel domains. Matériel: Antitank and personnel carrying vehicles seem to have given satisfaction; constitution of entirely motorized detachments permits accelerating the rhythm of operations; but the motorized columns are shown to be particularly easy to discover and particularly vulnerable (to air and artillery); their gas supply is delicate. Tactical: Maneuvers proved that the defensive retains its superiority, especially antitank and antiaircraft. Let us guard against precipitate judgement. Reorganization of the British army is too recent for information to be considered definite; it should be reinforced by information of a continental war not yet ended.

March-April 1938

ARMORED VEHICLE COMBATS IN MOROCCO.

[Combats de blindées au Maroc.] Lieut.Colonel Dario

Illustrating the importance of the principle of employing armored vehicles in depth, the author presents three examples taken from comparatively recent combats in Morocco.

The first example illustrates a reconnaissance by two platoons of armored cars (6 cars) and a half-section of tanks (2 tanks) to reconnoiter terrain and dispositions in a locality. The second example illustrates employment of a squadron of armored cars (3 platoons of 5 cars and 1 platoon of 3 cars) to attack the hostile flank and rear to assist the main force whose flanks and rear were threatened by the enemy. The third example illustrates employment of one platoon of three armored cars as a covering detachment protecting road builders. In each case, employment of cars in depth permitted accomplishing the mission without loss of cars; lack of depth would have jeopardized the mission and would have lost cars. Each account is illustrated by a sketch showing dispositions and movements, and by photographs showing general nature of the terrain.

RENNENKAMPF'S RAID IN THE WAR WITH CHINA.

[Un raid de Rennenkampf dans la guerre de Chine.] By M. Jean Savant

A brief narrative of a raid by General Rennenkampf, distinguished Russian cavalry leader, during the Russian invasion of Manchuria in 1900 incident to the Boxer troubles. Rennenkampf, stationed at Tchita in Transbaikalia, was ordered to bring reinforcements to one of the northern invading columns some time after hostilities began. Destined to return to Tchita, he sought permission to participate in the campaign and was given command of an advanced detachment. With this improvised detachment, he marched 1,500 kilometers across Manchuria, captured 122 guns, destroyed large amounts of ammunition and supplies, captured cities including two of the three capitals of Manchuria, and defeated numerous Chinese forces vastly superior to his own handful of Cossacks. Rennenkampf's audacious conduct of this detachment was the most important element in Russian success during the campaign and brought him many honors. Against other Russian columns, Chinese fought well and with some success; against Rennenkampf's Cossacks and his skillful leadership they were helpless. The account is illustrated with maps and a photograph of this great cavalry leader.

EVOLUTION OF BRITISH CAVALRY.

[Evolution de la cavalerie britannique.] Lieut.Colonel Cuny

Changes in organization, usually slow, are at times accentuated, as at present for British cavalry. Changes are imposed by permanent factors of needs, possibilities, and traditions of the arm whose peculiar characteristic is that it must be at the same time continental and colonial. Before studying experiments since the war, it is necessary to consider dominant traits without which evolution would have no meaning.

Equestrian resources of the United Kingdom. — England is horse country par excellence; there the thoroughbred was developed, the chase perpetuated, races organized, and polo born. Horse sport is a need of national life, and the classic figure of John Bull remains that of a portly cavalier clad in red coat and riding boots. Urban civilization has not eliminated the taste for the horse, but it has changed and commercialized it. While horse activities remain a common bond between crown, aristocracy, and the people, breeders concentrate efforts on production of de luxe horses and the less distinguished horse of army type has almost disappeared. This slow diminution in horse population before ever increasing numbers of automobiles is one of the principal causes of mechanization in British cavalry.

The English cavalier. — As everywhere else, the mounted man feels a sensation of superior force, promptness, and attraction, that being mounted gives. This sentiment develops rapid and bold methods of mind, broad vision, balancing desires and means — in a word, self-control. Master of his horse, the English gentleman becomes master of himself; it was not hazard that recruited the majority of great English leaders during the war from the cavalry (Allenby, French, Haig). The English cavalier is more interested in sport than in fine and learned equestrianism; before everything, he is the rough and bold cavalier ready to ride at an obstacle without too much calculation and reflection. The team spirit that characterizes the Anglo-Saxon is manifested in the taste for races, hunts, and games. Excitation of the struggle, team discipline, suit the cold and slow temperament. This spirit of association is found throughout the history of British cavalry where brilliant isolated sections are the exception, combined action the rule. Finally, the English have become masters of breeding, caring for, and training horses. With them, horsemanship is placed above horsemanship.

The British cavalry. — These traits are inherited by British cavalry. In its history, two currents can be distinguished: the cavalier, of gentlemen bold and undisciplined; the puritan, of less brilliant citizens who triumphed by energy and discipline. With the cavaliers, English cavalry was bold and keen; with the bourgeois, it became methodical and ordered, and has so remained. Victories of Marlborough and Cromwell were due to powerful shock of rigid cavalry after preliminary fire preparation. From the beginning of the seventeenth century, English cavalry possessed a fire arm and tried combinations of fire and movement. These attempts developed during the eighteenth century by specialization in mounted arms of which traces are found in diverse organizations considered since the war.

When the Empire was founded and colonial service added to continental service, platoons of preceding days were grouped under a colonel and given an organization suited to modest needs of colonial war and garrison service.

The platoon system, suiting traditions and contingent situations, persisted until the middle of the nineteenth century. The large cavalry unit is still the exception in England for it does not fit needs of colonial service and reliefs. Of 20 line regiments, 11 are in England, 4 in Egypt, 5 in India. Nearly half are stationed overseas and are relieved periodically. Colonial service requires this relief, and also a life, equipment, effectives, and tactics adapted to diverse theaters. In part, therefore, organization of British cavalry is modeled on needs of colonial service. Units should be different yet interchangeable; this necessity explains the delays and hesitation in reorganization. To needs of colonial service must be added needs of a continental war; English cavalry is the only one that faces such a double obligation. Organization must be supple enough to meet needs of a small war as well as exceptional needs of a great war. The brigade, therefore, is the single large permanent unit; it suffices for peace missions; it can be reinforced in case of need.

Tradition is important in the British cavalry; it is the reason for sentimental and practical resistance to changes, and also the reason why evolution depends essentially on perfection in fire arms and means of transport. As great as may be the esprit of corps and caste in the British cavalry, it still recognizes the necessity of adapting itself to the exigencies of the times by adopting new means offered by industry. Therefore new means are adopted, but esprit, principles and missions remain the same as in the past.

EVOLUTION SINCE THE WAR

Modifications since the war have been influenced by battle experiences. Since 1870, English cavalry has not been an arm of mounted attack by large units; it has been the arm of reconnaissance and fire-power. The South African War confirmed these views. At the eve of the war, British cavalry was therefore farther advanced than continental cavalry. Its fire weapons and fire instruction was superior to that of infantry. This fire-power did not exclude the mounted attack, but favored it; it permitted fixing the enemy, maneuvering, then attacking with the arme blanche. Cavalry was therefore trained to fight by shock, fire, or combination of both. It was the arm of security, and was utilized to hold ground and to constitute a mobile reserve. British cavalry showed the benefit of these conceptions under different regions and conditions during the war. During the early days of the war, the three cavalry divisions rendered splendid service; badly used from 1915 to 1918, to fill gaps or replace infantry, its matériel increased and mobility decreased. In Palestine, a cavalry corps after careful preparation executed a march of 320 kilometers in 3 days and caused the debacle of the Turkish armies. From these different and contradictory operations, some would have reduced cavalry to a purely colonial role; others affirm that augmentation of fire-power and motorized matériel authorized a role in continental wars. The British high command, without deciding between the radical opinions, formulated the following conclusions to be drawn from employment of cavalry in the last campaign:

- (1) Importance of division cavalry and necessity of attaching a regiment instead of a squadron to each infantry division.
- (2) Distant reconnaissance is the function of aviation and armored cars; cavalry executes close and detailed reconnaissance.
- (3) Impossibility of using a large cavalry unit except as mobile reserve to exploit success.

In resumé, cavalry should endeavor to conciliate two opposing factors: mobility and fire-power, and to this end it has worked for eighteen years.

THE EVOLUTION FROM 1919 TO 1937

Four steps in evolution can be distinguished during this period: the overloaded cavalry; mixed cavalry, or half motorized; pure cavalry; mechanized cavalry. Changes have been due to progress in means available. Principles of employment and distribution in the Empire have remained constant; to new weapons and vehicles almost complete transformation of British cavalry can be attributed.

(1) Overloaded cavalry, 1919-1929. — Increase in means of fire after the war reduced mobility of regiments below that of 1914. The horse became a beast of burden crushed under weight of matériel, and was incapable of assuring fluidity and rapidity of movement indispensable to cavalry missions. Between 1919 and 1927, cavalry was reduced from 31 regiments to 22, from a proportion of 7.7% in 1914 to 5.8%. At the same time, guard regiments were reorganized as line regiments and lancers, dragoons, and hussars amalgamated into a single corps. Between 1927 and 1929, fire-power of regiments increased to double that of 1918 and quadruple that of 1914, but this fire-power was developed at expense of mobility, for transport remained horse-drawn. The brigade, entirely horse, contained three regiments and disposed 66 automatic arms. Only in the division did motors appear, and the division existed only on paper; it had 18 cannon, 227 automatic arms, 9,000 horses, 434 wagons, and only 361 automobiles.

(2) The half mechanized cavalry. — Progress in vehicles permitted augmenting mobility and fire-power and reducing effectives without reducing number of units. In 1927, the War Office adopted the six-wheel truck and the armored car. The six-wheel truck permitted: first, lightening by 16 kilos loads transported by horses extending radius of action 16 to 20 kilometers; second, transport in trucks of machine guns, munitions, and rolling kitchens. The motorized signal detachment could be left far behind and still rejoin when needed. Cross-country carriers permitted doubling the number of automatic arms. Thus transformed, the regiment became a more powerful unit able to cover 36 to 48 miles at a rate of 5 or 6 miles an hour. It was composed of a squadron of armored cars, constituting the motorized fire element, and to horse squadrons, destined as the maneuvering element. Two regiments had been transformed into armored car regiments in 1928. Modifications indicated, accomplished in 1929, occasioned a reduction of 1,300 men and 1,400 horses for the cavalry. During this period two types of cavalry were created: entirely mechanized units (armored car), and mixed

units used either as division cavalry or independent brigades that could form cavalry divisions. The organization did not stand tests. In less than two years another organization separated horse and motor elements and created light regiments by using motorized trains employing light machine guns in place of the automatic rifle.

(3) Pure cavalry. — Both cavalry and mechanized regulations in 1929 recommend employment of modern means (aviation, mechanized vehicles, armored cars, means of communication) to provide mobility and fire-power and intensify particular qualities of cavalry. The following means were in use two years later:

(a) Bren light machine gun, replacing machine gun and automatic rifle, and capable of transport on saddle.

(b) Mechanized vehicles: a Baby Austin equipped with radio, for observation and liaison missions; an armored Carden Lloyd caterpillar machine gun carrier; a commercial transport vehicle, less dependable than the six-wheel truck.

(c) Crossley and Lanchester armored cars of superior armor and mobility, radio equipped.

(d) More modern large caliber mechanized artillery.

(e) Radio equipment of greater range permitting telephone in movement.

In 1932, the regiment consisted of: a squadron possessing 4 light machine guns transported in 9 small Austins; 3 saber squadrons of 3 platoons each with a light machine gun. The machine gun squadron had disappeared; the number of squadrons increased from 2 to 3. The regiment possessed only 16 light machine guns and 200 rifles for dismounted action. The Bren gun permitted using horses for transport in zone of fire; mechanized transport permitted maintaining all unnecessary impediments in rear. This organization had the advantage of a certain but reduced mobility, more qualitative than quantitative. Such regiments were designed for division cavalry or for incorporation into large mobile units whose role was defined in the regulations of 1931. These regulations envisaged organization of the mobile division composed of cavalry, tanks, motorized elements, or a combination of the three. This unit did not have a rigid organization, it depended on missions, terrain, and means at enemy disposal. It met dual needs of the British army which might have to engage in any part of the globe. Cavalry component of these large units remained the brigade of three regiments, a group of artillery, and auxiliary elements. Light horse cavalry, fortified by modern matériel, can still render great service in regions where machines cannot. This separation imposed by terrain between horse and mechanized units is due to possibilities of transport vehicles. The day when these vehicles can move in all terrain, horse cavalry — pure cavalry — will have no more reason for being.

(4) Mechanized cavalry. — The preceding organization was not continued because of progress in matériel. After experiments with new models in the tank corps, the high command decided in 1935 to reorganize the cavalry again, giving it matériel necessary to form two mechanized brigades for employment in a mobile division. In December 1935, the War Office announced plans for converting 8 line regiments into 5 regiments of portee dragons and 3 regiments of light tanks. The 20 line regiments were then divided between 10 horse and 10 mechanized regiments, grouped as follows:

Three mechanized brigades (2 in England, 1 in Egypt); 5 horse regiments (division cavalry) in India. This reorganization assured the normal play of reliefs and permitted organizing the mobile division decided during 1936, which was to comprise 2 brigades of cavalry composed of a regiment of light tanks and 2 regiments of portee cavalry; 1 brigade of tanks of 4 battalions; 1 group of artillery; 1 squadron of engineers; mechanized communications and services. This organization was not continued after tests of 1936, and at the beginning of 1937 the War Office prescribed the following organization for study:

(1) Eight regiments of mechanized cavalry to be converted into light tank units, that is, regiments composed of light tanks and portee dragons, the portee regiments disappearing as separate units.

(2) The 8 regiments equally divided between division cavalry and independent brigades, with similar organization. The brigades to consist of 2 light tank regiments and a battalion of portee infantry, specially organized for this new role, and to contain reconnaissance and antitank elements. Following this reorganization, cavalry of the line consisted of 2 armored car regiments, 8 light tank regiments, and 10 horse regiments of which 5 were in India. Consent of the Indian government was necessary before the last 10 regiments could be mechanized, and conferences resulted in decision to transform 4 regiments in India into light tank regiments and return the other to England. Therefore, in 1938, cavalry of the line will consist of 2 regiments of armored cars, 16 regiments of light tanks, and 2 horse regiments retained for sentimental reasons.

Organization of light tank regiments is far from definite. In 1937 maneuvers, squads of portee dragons were united into platoons and there is question of organizing platoons of light tanks and platoons of portee cavalry separately.

The entirely mechanized mobile division contemplated during 1938 was to consist initially of: 1 brigade of tanks of 4 battalions (offensive element); 2 brigades of cavalry, each composed of 2 tank regiments and a battalion of portee infantry (reconnaissance and security element); 1 group of artillery (fire element); auxiliary arms and services. Following maneuvers of 1937, the War Office decided to make the mobile division lighter, more homogenous and powerful, and therefore again modified the organization. The portee infantry was taken from the brigades, reduced by half, and organized into a division organization charged with overcoming resistance that tanks cannot, security, and occupying and holding terrain. Such is today the organization on which British cavalry is to be organized and trained. Entirely mechanized, the horse has nearly disappeared for light tanks and mechanized carriers.

CONCLUSIONS

Thus for eighteen years British cavalry has never ceased reorganizing in continuous attempts to conciliate two apparently irreconcilable factors: mobility and fire-power. This evolution has resulted from perfection in matériel, especially cross country transport vehicles. Perfection of matériel has eliminated the duality between continental and colonial cavalry. Masriél has dictated small groupments and regimental organization. The question of pure cavalry or mechanized cavalry is solved: in 1929 only 2 of the 20 line regiments were mechanized; today the proportion is completely reversed (18 mechanized for 2 horse) and metropolitan cavalry is almost entirely mechanized.

What will be the value of this new cavalry? It is still too soon to say. It passes through a phase of transformation with lack of matériel, men and trained cadres; it cannot be judged before it exists and is trained.

However, this mechanized cavalry keeps its cavalry spirit; it preserves its spurs and its traditions and refuses to be confounded with the tank corps. Although deprived of their horses, its officers preserve the same dash and train themselves with great care for their new role. If change has been painful, it should be recognized that the cavalry has submitted without murmur and has adapted itself with suppleness and practical sense to the necessities of the times.

Some estimate that they have gone too far in the way of mechanization; they ask if the mobile division composed of light tanks without great fire power will be capable of surmounting resistance reinforced with numerous antitank arms. They remark on the diversity of units, heaviness of command, length of columns, enormous needs for supply and maintenance. Others reply to these objections that the large unit will not actually be constituted before the middle of 1938 and that it can be modified in light of experience. The strong proportion of light tanks is necessary to have similar units in Egypt, India and England. Considering the whole of the cavalry of the Empire, besides the 18 line regiments mechanized, there exist 24 native horse regiments in India, and 16 horse regiments of Yeomanry and Scouts in the English territorial army. Although the dominions may follow the example of the metropolis in time, they will no less preserve numerous "commandos" and "mounted rifles" which will remain mounted.

Regular cavalry therefore constitutes only a comparatively small part of the Imperial Cavalry. It constitutes the advance guard destined to engage first on the battle field. Is its organization achieved, or will it again be transformed? It is difficult to foresee, but its future cannot be indifferent for us.

THE SITUATION AND MODE OF ARAB HORSE BREEDING IN SYRIA. [La situation et le genre d'élevage du cheval arabe en Syrie.] Capitain Rigon

This study outlines the geography of Syria, describes the Arab horse produced there, gives an account of breeding before the war, compares the present state of breeding, offers reasons for its decadence, and suggests remedies for improvement. The article is illustrated with photographs of horse types.

EXTRACTION OF ETHYL ALCOHOL FROM CORN.

[Extraction de l'alcool éthylique à partir du maïs.] Capitain de Bry

This article discusses the production of ethyl alcohol from corn, and its importance by reason of grave lack of petroleum in France.

REVUE D'INFANTERIE (France)

By MAJOR R.G. TINDALL, Infantry

January 1938

THE A B C OF ARTILLERY FIRE.

[L'A. B. C. du tir de l'artillerie.] Colonel Desrousseaux

A simplified discussion of artillery firing problems.

TANKS IN THE DEFENSIVE. WITH THE FIRST ARMY APRIL AND MAY 1918.

[Les chars dans la défensive. Avec la 1re Armée (avril-mai 1918).] Lieut.Colonel Perré

An account by one of the leading French tank authorities of the action of French tanks in the spring of 1918. This contains a detailed description of the movements of each French tank during the American attack at Cambrai, 28 May 1918. This article is covered by a separate digest in Quarterly No. 69, June 1938, page 84.

THE AUTOMOBILE SHOW OF 1937 AND ITS MILITARY INTEREST.

[Le Salon de l'automobile de 1937 et son intérêt militaire.] Capitain Le Gouest

The effort of French automobile manufacturers to get results with slight consumption of gasoline, the appearance of Diesel engines and of machines using other fuel than gasoline are considered of great interest.

February 1938

TANKS IN THE COUNTERATTACK; THE COUNTERATTACK OF MERTHELLO, 11-13 June 1918.

[Les chars dans la contre-attaque: la contre-attaque de Merville (11-13 juin 1918).] Lieut.Colonel Perré and Major Aussenac

See digest in Quarterly No. 69, June 1938, page 84.

MARKSMANSHIP TRAINING FOR THE 60-MM AND 81-MM BRANDT MORTAR.

[Méthode de tir fictif pour mortier Brandt de 81 ou de 60.] Captain Loubiere

Method by which practice may be gained in correcting fire data as a result of actual observation at ranges of several hundred yards without the firing of live or training ammunition.

March 1938

THE MODERN TANK. ITS CAPABILITIES AND EMPLOYMENT IN THE ATTACK.

[Le char moderne. Ses possibilités, son emploi dans l'attaque.] Lieut. Colonel Perré

The tank is not a weapon which will win wars quickly and painlessly; neither has it proved a failure in the Spanish War. In an article which is the reproduction of a conference before a large group of reserve officers, he points out that if the tank has armor sufficiently thick to protect it against the fire of antitank weapons striking it at 30 degree angles at ranges greater than those at which the tank crew can see and return the hostile fire immediately, the tank crews will not undergo excessive danger in battle. He points out that of the 688 French tanks put out of action in 1918, only two succumbed to antitank rifles. He attributes this to the fact that these weapons were unable to penetrate the armor of tanks at other than short ranges and says the fact that the tanks could spot these weapons at such ranges and instantly return effective fire was the reason. He also points out that on the battlefield, most of the targets which antitank guns get will be such that the bullet will not strike perpendicularly, but at an angle.

In speaking of American tanks for some of which a speed of 60 miles an hour are claimed, he says that there is little advantage in such speeds for one does not fight at 60 miles an hour. He draws a great distinction between the maximum speed of a tank, its average marching speed, its speed in varied terrain and its combat speed. The latter, he says, no matter how great the maximum speed, will never be more than 10 kilometers an hour, for because of the difficulty of vision, it is impossible at higher speeds to search the terrain or to fire accurately. This brings out the essential difference between the French school of thought on tanks and the British. The latter has insisted that speed is the best protection for the tank and takes precedence over armor. The French school answered: "No, since you are obliged to abandon this speed at the moment you fight effectively, that is, at the time you run the greatest danger."

Colonel Perré says the experience of the Spanish War confirmed the French reasoning and adds that the British and their followers are now busily engaged in augmenting the armor of their tanks.

He brings out that while modern tanks can make one day's march of approximately equal length to that of truck columns, the strategic mobility is much less. A complete overhaul is necessary after 3,000 kilometers and therefore every tank movement must be carefully weighed to see whether it is worth while.

He then considers the most difficult type of tank attack, that against an enemy in a defensive position, an enemy who has had time to coordinate his fires. He first points out that tanks are able to approach hostile resistances and fire at close range and hence obtain a maximum effect with the minimum expenditure of ammunition. On the other hand, tanks run great danger when they are immobilized in combat and consequently cannot occupy ground. Their vision is such that they cannot fire effectively at ranges over 500 meters, and their presence in a zone only insures a temporary neutralization, which is likely to vanish when they move on. Likewise the difficulty inherent to varied terrain, the necessity of locating the enemy and adjusting fire forces tanks to progress with relative slowness from the moment they start to fight effectively. The author thus concludes that when opposed to an enemy capable of strong resistance, tanks must act in close liaison with the other arms — infantry, artillery and aviation. This permits the infantry to occupy terrain held by the enemy, and to mop it up. The infantry must exploit rapidly the effect of tank action which is essentially fleeting.

Colonel Perré then reminded those of his auditors who had participated in the war that what the infantry dreaded most when moving to the attack was the terrible sound of machine gun fire, grazing machine gun fire, coming from a zone of terrain visible from the line of departure and at the most 1200 meters deep.

If, shortly after H hour this band of terrain is invaded by tanks in depth, protected and supported by other arms, all or nearly all of these deadly automatic weapons will be silenced and the infantry can advance. Colonel Perré speaks of this as the notion of tank employment in areas as opposed to the linear employment of the last war. The most powerful tanks should form the advanced echelons, and since they have to coordinate their advance with artillery fires, they are under the orders of the commander of the large unit, the common chief of the infantry and artillery.

Not less logically, he contends, the lighter tanks constituting the rear echelons need not be so fast. They benefit from the protection of their larger brothers and of the fires of the infantry. Since they are the closest to the infantry and must regulate their advance on that of the infantry, they are subordinated to the infantry commanders.

Finally Colonel Perré points out that such a system is capable of powerful blows and that with it attacks can be arranged much more quickly than in the past.

In all military history decisive battles have occurred only when armament permitted the combining of maneuver with an action of frontal rupture. This combination was the essence of Napoleonic maneuver. When fronts are inviolable, flanking maneuvers merely throw back the enemy. He points out that the tank now gives the high command a battering ram capable of opening a deep breach and that this perhaps will give back to Victory those wings which the pitiless automatic weapon had shot off.

THE AERIAL INFANTRY MISSION.

[La mission aérienne d'accompagnement de l'infanterie au combat.] Lieutenant Roy

The author states that under modern conditions the infantry mission (contact-liaison mission) has become almost impossible because of the deadliness of fire from the ground. It therefore must be abolished. No plane could expect to fly continually at the low altitudes required during the World War in order to execute such missions.

The best that can be done is to combine this mission with close reconnaissance missions or rather, to modify the latter slightly. When the ceiling is very high, the plane occasionally can dive down to ascertain one or two definite points. A specific questionnaire should be given the observer before the start of the mission. Most of the information will be transmitted by radio.

With average ceilings, the plane must utilize clouds for shelter and only go out of these at short intervals. With a low ceiling the plane will fly over the lines at low altitude, and have the benefit of surprise appearance and rapid disappearance. However, nothing much can be expected in the way of information unless the observers are well trained in such work and unless only very simple things are demanded of them; for example: "Does the enemy occupy such and such a wood? Have our leading elements reached the line: X — Y? Why does not such battalion progress?" In such a case the speed of the plane will permit it, after dropping a message at the division command post, to land at its airdrome and furnish by telephone information to the staff a few moments after obtaining it. The use of radio in the latter case will be less important. The author believes that persevering in old methods would be fatal at the present time.

THE TRANSFORMATION OF INFANTRY AND REVISION OF TERMINOLOGY.

[Les transformations de l'infanterie et la refonte de la terminologie.] Major Laporte

Changes in terminology necessitated by changes in French infantry organization.

ENGINEERS AND MECHANIZED UNITS.

[Génie et unités blindées.] Captain M.

THE LESSONS OF THE SPANISH WAR, ACCORDING TO TWO RECENT ARTICLES.

[Les enseignements de la guerre d'Espagne, d'après deux publications récentes.] Major Cailloux

A discussion of the accounts of Dr. Herman Klotz, a former German naval officer, and of General Temperley. It is concluded that tanks and aviation are merely auxiliary arms of the infantry which remains the Queen of Battles. Antitank defense and antiaircraft defense have been effective. The tank no longer can count on technical surprise; it is on an even basis with antitank defense and the morale of the civil population can resist bombardments by air forces. Militia, when engaged as interior units on a continuous front, have been able to stop better trained troops and a situation not unlike that of 1914-18 has resulted.

REVUE MILITAIRE GENERALE (France)

BY MAJOR R.G. TINDALL, Infantry

January 1938

NOTES ON THE HIGHER CONDUCT OF WAR FROM 1792 TO 1797 AND FROM 1914 TO 1918.

[Notes sur la conduite supérieure de la guerre de 1792 à 1797 et de 1914 à 1918.] (I) Marshal Franchet d'Esperey

In this issue the author shows that the French Government in Revolutionary times directed closely the operations of its armies, this control being effected through Carnot, who at times even supervised the actions of the various fourteen army commanders.

NATIONAL DEFENSE.

[La Défense Nationale.] Lieut. Colonel Fabry

An article advocating a single chief for the army, navy, and air forces of France. Incidentally, simultaneously with its publication, the French government took such steps. The actual reorganization effected is covered in a succeeding article in the March issue of the "Revue Militaire Générale."

COMPOSITION AND POWER OF THE NAVY. ITS ROLE IN NATIONAL DEFENSE.

[Composition et puissance de la flotte. Son rôle dans la Défense nationale.] Vice Admiral Darlan

The author brings out that France cannot fight a successful war unless materials can be imported from abroad and troops transported from her colonies. Thus the task of the French navy is to keep the sea lanes open for French commerce and France must have a fleet at least equal to that of any other Continental power. The battle fleet is the backbone of a navy, he demonstrates. The author is none too enthusiastic about proposed methods of insuring ground-air-naval cooperation, although he points out that this is essential.

AIR SECURITY AND THE AIR OFFENSIVE.

[Sécurité aérienne et offensive aérienne.] General Armengaud

The French general reacts against suggestions that the French air force should be designed to parry hostile air attacks primarily. He insists on bombardment, the attacking weapon being the principal weapon of the air force. However, he brings out that the French pursuit is insufficient in numbers at present, and that the matériel should be renewed in order to give it a 60 to 100 kilometer advantage in speed over the most modern bombers. He also points out that pursuit costs much less than bombers, but also demonstrates the difficulty of parrying hostile attacks. He shows that hostile bombardment can move 100 to 150 kilometers while friendly pursuit is being alerted and gaining altitude.

Present day skepticism as to the power of an air offensive (caused by events in Spain and China) is far from warranted, in his opinion. Employment of aviation in mass by modern powers would give entirely different results from those achieved by small detachments.

A PAGE FROM THE SPANISH WAR. THE BATTLE OF BRUNETE.

[Une page de la guerre d'Espagne. La bataille de Brunete.] General Niessel

A former member of the French superior war council discusses the attack by which the Government forces hoped to crumple the Nationalist front last July. The attack came as a surprise to the Nationalists, whose security measures were defective. The Nationalist defenses consisted of isolated organized localities, the intervals being weakly held. The Government troops by a night advance poured through these intervals and attacked the organized localities. A deep advance was made at once but the resistance offered by the organized localities caused a great loss of time for the attackers. Some ten days later, after assembling their forces, the Nationalists recovered considerable ground by a counteroffensive.

General Niessel points out the effects of the initial surprise achieved by General Miaja, the Government commander. This was the result not only of the secrecy of his preparations but of the poor security measures of the Nationalists and the lack of established liaisons. The Government forces did not exploit their initial success by attacking to the right and left of the pocket created (as the Allies did in 1918) but instead lost the entire first day pouring troops into this pocket. For six days their efforts against the sides of the pocket were broken.

General Niessel states that the hard fights of these days brings out the value of fortified localities (villages) when the defenders are determined and when the attacker does not have sufficient artillery to destroy them. The tenacity of the few defenders of these posts stopped for a long time and often altogether the determined efforts of the attackers.

Tanks were employed in fairly large numbers but had little result against fortified villages because the attacking infantry did not follow them closely enough, and the tanks suffered heavy losses from antitank weapons.

Aviation played a marked role in acting with machine guns and bombs against positions which the infantry was about to attack, or in counter-attacking hostile infantry. The aviation participated in numerous air conflicts. Information as to the number of planes engaged varies widely. Russian accounts stating that the Government forces in the beginning had only 100 planes against 200 Nationalist planes are not accepted by General Niessel, since the Government forces had the initiative and the advantage of surprise. German accounts state that after the Nationalists had been reinforced in aviation from other fronts, there were approximately 100 planes on each side. Incidentally, some American aviators who had recently arrived to assist the Government forces, were shot down and taken prisoners by the Nationalists, according to General Niessel.

The author states that the superiority of the Nationalist command was quickly effective. General Varela, the Nationalist leader, got the most possible out of the feeble effectiveness which he originally engaged and used only the indispensable minimum of reinforcements as they arrived, until all of his forces being up, he passed to a counteroffensive which reconquered a notable part of the terrain originally gained by the Government forces.

THE ETHIOPIAN CAMPAIGN. THE SERVICES OF SUPPLY.

[La campagne d'Ethiopie. Les services de l'arrière.] General Rouquero

The author discusses the formidable effort made by Italy to supply her troops during the Ethiopian campaign. The problem was made all the more difficult in that the plan of supply of the troops was changed several times.

In 1932 the plan was purely defensive; it was replaced by a second plan in 1934 and by a third in 1935, this being amplified in the course of operations. The elasticity with which these plans met the changing exigencies is testimony of good organization and the high quality of the personnel involved.

By the end of the campaign Italy had sent and maintained 5,000 miles from home more than 400,000 men, whose needs for materials of all kinds would triple the tonnage of the same effectives in a European war.

The men sent to Ethiopia underwent a rigorous physical selection. Volunteers from retired officers were requested; 13,000 were retained out of 21,000 who asked to go. Reservists were called up successively, not all at once, and thus the depots were never swamped as were those of France in 1914. Extremely careful personnel notes were made as to the technical aptitude of the men, and their specialties.

The measures to obtain adequate officers had been thought out in advance. The question of matériel dominated the preparation for this war. The following principle guided: "Without sufficient matériel, war of movement is a Utopia."

The following matériel was sent to the theater of operations, a huge mount for a colonial war:

843,000,000 small arms cartridges
4,000,000 artillery shells
3,000,000 hand grenades.

Part of these supplies were obtained by utilizing mobilization supplies, which were then hastily replaced. Private industry was coordinated by state establishments.

The ration was simple, adequate and without variety. Two ships were stationed off the coast, constituting floating ice boxes for frozen meat. An attempt was made to replace oats for animals by a substitute product known as energon, but since important purchases of oats were made in Argentina, Poland and (believe it or not) Russia, presumably energon did not render all the services which had been hoped for.

Initially horses and mules were shipped overseas in individual stalls. Later, however, the animals were placed side by side with a partition between each ten only and this method was a rule at the close of the expedition.

The principal cause of the success of the Ethiopian campaign was the unity of views realized in its conception, preparation and execution. The head of the government had things in his hands and the methods adopted met the tests successfully.

THE OFFICER IN THE NATION.

[L'officier dans la Nation.] Major Dassonville

Discussion of the role of the French officer, his position in regard to politics and the French character.

February 1938

NOTES ON THE HIGHER CONDUCT OF WAR FROM 1792 TO 1797 AND FROM 1914 TO 1918.

[Notes sur la conduite supérieure de la guerre de 1792 à 1797 et de 1914 à 1918.] (II) Marshal Franchet d'Esperey

The former commander of the Salonika armies continues his series on governmental conduct of war. He shows that the outbreak of war in 1914 found the French government unprepared for its role in case of war. For two years the personality of General Joffre supplied, as well as was possible under the circumstances, a common military direction. Then after a year of disillusion, 1917, the Allies established a permanent council charged with the general direction of the war. The views of the governments' military advisers and of the commanders-in-chief of the various armies were opposed and the governments abandoned the creation of a reserved mass of maneuver. Events forced the governments to accept unity of command but this was limited to the Western theater.

Franchet d'Esperey states that Foch "absorbed by his command, does not have in November 1918, that general view which would have allowed him to have imposed on the defeated enemy an armistice having less disastrous consequences for the conquerors."

He insists that laws be passed in time of peace fixing the executive and legislative powers in time of war as well as the limits within which the high command should operate.

TACTICS OF YESTERDAY AND OF TOMORROW.

[Tactique d'hier et de demain.] General Velprey

The author is in rebellion against present-day French tactics, in particular the employment of fast tanks. He recounts the story of the attacks of 1915, 1916 and 1917 to show the slow progress and great cost in lives and money of an infantry-artillery attack and compares these with the attacks of Cambrai, Soissons and Amiens. He then expounds his own ideas on the tactics of tomorrow.

For him the tank assures surprise, the key to victory. He insists that the only antitank weapon which will last will be the tank. The antitank guns of today are effective against lightly armored tanks, but, he argues, increase the armor of the tanks and the antitank weapons must be made larger, and therefore more visible. The tanks can then locate and attack them with success.

If the enemy has laid tank mines, and these must be destroyed by artillery, why not let the tank do this destruction at the closest of ranges with its own guns, he argues, and compares the time necessary for the artillery to do this at long range with what he believes the tanks can do at close range. The latter will do it far better and quicker, is his conclusion.

He does not wish to do without artillery support, but he wishes this adapted to the wishes of the tanks. For example he wants a far greater use of shrapnel and smoke. He does not like time schedules for artillery fires in an attack, and he protests against any halts during an attack for the purpose of an artillery displacement or readjustment of observation and fires. Such habits have become reflexes today with the French army. In reality they are merely a machinery invented to remedy the congenital defect of artillery, its distance from the supported elements, and they should disappear with the cause which gave them birth. The tank is a cannon at close range.

Since they are very visible on the terrain, artillery observers can follow the progression of tanks much more easily than that of infantry, and moreover, since the tanks can report their location and situation by radio, the artillery will find it easy to rectify its fires in accordance with the desires of the tanks. The tanks will permit the artillery much more freedom of action in regard to displacements.

Surprise only acquires real value if it is rapidly exploited and the adversary is not given time to bring up reinforcements. The tank is eminently suitable to realize surprise but only if employed in mass, on a wide front, and several echelons deep. The author insists on echelonment in depth of tanks so as to submerge simultaneously the entire infantry position of the enemy.

Behind the tanks the infantry must push forward as rapidly as possible. The author does not wish to entirely eliminate halts on successive objectives as the following passage will show, but he wishes to reduce these in time.

"Halts must not be prearranged except where the horizon changes, in order to reconnoiter the terrain before moving into it, and because there the attacking troops find shelter behind the protecting crest against observation and fire. But these stops must be reduced to the minimum, a few minutes and not a few quarters of an hour, as long as the enemy is not broken, as long as his artillery has not been reached, and remains capable of a coherent reaction."

The author brings out that in an infantry-artillery attack, there is much power at first and things go well, but that the attack gradually loses its margin of superiority, little by little as the infantry reaches the limit of the range of its supporting cannon.

On the contrary in a tank attack the debouching of the infantry should be quite prudent because since the automatic weapons of the enemy have remained silent for the most part, the mopping up of the tanks is still incomplete. The appearance of the first infantry will cause the weapons of the defense to open up and permit the tanks to destroy them. Therefore the infantry should beware of exposing many men at first. If the infantry debouched in mass as it occasionally did in the World War in order to avoid the hostile artillery barrage, it risks falling an easy prey to the hostile automatic weapons. But it can progressively become bolder as the tanks knock out the hostile weapons. Thus a tank attack will maintain its offensive power and the infantry can go faster and faster instead of slower and slower.

The author insists that the air forces will contribute most effectively to victory by a close collaboration with ground forces, and decries any main effort against hostile non-combatants.

He concludes that offensive tactics and the organization of larger units should be based upon the employment of powerfully armed and armored mechanized vehicles. He insists on the impossibility at present of having large units equally apt at defense of large fronts and of attack, and urges the specialization of units. This he says is a necessity in modern times.

"To wish to escape this in the domain of military organization is to condemn ourselves to only have mediocre units which are jacks of all trades, whereas success in war demands maximum quality and efficiency of the instruments employed for each task."

Prolonged stabilization, says the author, was a consequence of the weakness of the offensive means employed in the last war, and will be reproduced again if the same conditions of lack of preparation should reoccur. But just as the situation in the last war changed rapidly in favor of that side which first created an instrument of attack appropriate to the needs of the hour, so in the future that army which first obtains and learns to use offensive means suited to the exigency of the age will rapidly end the war as victor.

THE EVOLUTION OF THE MILITARY AND MARITIME ROLE OF THE FRENCH COLONIAL EMPIRE.

[L'évolution du rôle militaire et maritime de l'empire colonial français.] Major Regnault

A discussion of the defense of French colonies today and the aid they might afford France in an European war.

ORGANIZING LIAISON IN THE EXECUTION OF DEMOLITIONS.

[Organisation des liaisons dans la mise en oeuvre des destructions.] Colonel Rousseau

The author discusses the use of demolitions under two general cases, first a strategic withdrawal planned well in advance, such as the retirement of the Germans to the Hindenburg line in the spring of 1917, and secondly, in delaying action. The latter case brings out several difficulties in the actual execution of demolitions.

He points out that small engineer parties will be scattered over the terrain in rear of the infantry units, preparing demolitions. This preparation is not difficult; it is the matter of actually exploding the laid charges which is delicate. It must not be done too early or too late and above all it certainly must be done.

Each demolition will be exploded in general on a special order of execution, given by the authority which has been delegated to give this order. Such delegation may be made by higher commanders down to and including infantry battalion commanders.

Thus a battalion commander fighting a delaying action, may find in his sector a number of prepared demolitions, which probably will have been prepared by detachments of engineers belonging to various different units. Therefore, at the last moment, that is when battalion boundaries are fixed, it is necessary to improvise in this zone a temporary grouping of demolitions and demolition detachments under the command of one technical chief, an engineer officer. Thus the transmission of orders for the actual execution of demolitions will require careful liaison arrangements.

Colonel Rousseau points out that this situation which is certain to arise in the case of delaying action where things must be done rapidly, does not seem to be covered by present French regulations. He insists that unless the question is solved, grave consequences might arise in war, and urges the study of such problems on the ground by units of all arms.

March 1938

ORGANIZATION OF NATIONAL DEFENSE.

[Organisation de la Défense nationale.] General Azan

A brief discussion of the effect of the decrees signed in January by the president of France. These charge a Minister of National Defense with

coordinating the Ministers of War, Air and the Navy. To assist him he has a permanent committee of National Defense. Likewise he has at his disposition the three Chiefs of Staff of the Army, Navy and Air Force, and he selects one of these to act as Chief of Staff of National Defense. Likewise a new committee has been created in order to intensify the production of war matériel.

The Chief of Staff of National Defense (General Gamelin has been selected to fill this post) is charged in time of peace with the study of those questions confided to him by the Minister. He coordinates the Army and Air Force plans of mobilization and operation and the studies of combined Army, Navy, Air Force operations.

The effects of these measures will bring about a far more unified direction of operations in war than in the past.

THE WAR IN SPAIN. THE COMBINATION OF AIR FORCES WITH NAVAL AND GROUND FORCES.

[La guerre d'Espagne. La combinaison des forces de l'air avec les forces navales et avec l'armée de terre.] General Armengaud

General Armengaud of the French Air Force recently entered Spain and studied operations there with a view of obtaining lessons first hand. He was with the Government forces. His conclusions are reviewed separately in Quarterly No. 69, June 1938, page 121.

INFANTRY AND CAVALRY.

[Infanterie et Cavalerie.] Captain Vernier

A study of the differences in French regulations between the action of dismounted cavalry and infantry.

WE MUST DIG THE TWO-SEAS CANAL.

[Il faut creuser le Canal des Deux Mers.] Captain Tourte

The author suggests the digging of a canal from Narbonne on the southern French Mediterranean coast to Bordeaux, thus giving France a short route from the Mediterranean to the ocean. He wants this canal to be wide enough to handle any vessel smaller than the Normandie. The route suggested would parallel the Garonne river for approximately half its way. His article appears to have been suggested by the Spanish War situation.

FROM MAN TO LEADER.

[De l'homme au chef.] Captain Manie

A psychological study of leadership of more interest to French soldiers than others.

REVUE MILITAIRE SUISSE (Switzerland)

BY MAJOR T.R. PHILLIPS, Coast Artillery Corps

December 1937

THE INEVITABILITY OF CONTINUOUS FRONTS.

[La fatalité des fronts continus.] General Rouquero

(See digest, page 44.)

TACTICAL NOTES FOR THE USE OF FUTURE CAPTAINS.

[Notes de tactique à l'usage des futurs capitaines.] (I) Colonel Lédérrey

AERONAUTIC MATÉRIEL.

[Les matériels aéronautiques.] Captain Sch.

Description of the Belgian pursuit ship, Renard "R. 36" and the Fairey "Battle" light bombardment. The former has a top speed of about 350 miles per hour at 6,600 feet, cruising speed of 250 miles per hour at 13,000 feet, range of 660 miles, and a maximum altitude of about 39,000 feet. The Fairey "Battle" can be used either for distant reconnaissance or as light bombardment. As light bombardment it can carry 1,100 pounds of bombs. It reaches a maximum altitude of about 25,000 feet, has a range of 1,000 miles at cruising speed and has a top speed of 256 miles per hour at 15,000 feet.

January 1938

THE FIXATION OF FRONTS.

[L'immobilisation des fronts.] Lieut. Colonel Mayer

(See digest, page 46.)

IMPRESSIONS AND EXPERIENCES OF THE SPANISH WAR.

[Impressions et expériences de la guerre d'Espagne.] (III) Captain Bauer

These notes are a continuation of Captain Bauer's observations after a month's tour in Insurgent Spain. He notes the excellent discipline of the Insurgents, comparing it to that of peace time armies in their observance of military courtesies. Soldiers are devoted to their officers. The officers earn this devotion by their courage, which among the junior officers is carried to the extent of useless risk of life to give the example.

In University City he found the typewriters clicking sending back reports of ammunition expenditure under fire and notes that war cannot be fought without typewriters and ink. In the Insurgent forces paper work

seems to have been held to a minimum, but nevertheless there is an essential amount of it.

The infantry is burdened with too many types of arms with resulting difficulty of ammunition supply. The Rif is a born rifleman and adapts himself well to the demands of modern combat. Some Moorish officers were encountered. These were accepted on terms of perfect equality with the Spanish officers. Tactics are simple. The smaller units move straight to the front taking advantage of terrain and cover. Complicated operations are generally undertaken by higher units, from the regiment up. The machine pistol has proved to be of great value in close combat.

Captain Bauer saw no cavalry except in the parades at Salamanca. While in Spain he was informed that it had taken over the sector south of Madrid from the Tagus to Pennaroya.

No marching foot troops were encountered except some who were entering or leaving the lines. Troop transport is primarily by motor truck. The Italians have assumed the principal responsibility of automobile transport. After the battle of Brunete numerous columns of Spa motors were seen moving at 37 miles per hour. Along the front, motor repair parks have been installed, a separate installation for each type of vehicle, Ford, Citroën, Opel, etc. This method appears to have given excellent results. Although the Spanish rail net is limited, it has been of immense importance to the Insurgents. It is to be noted that Spain is a graveyard for the smaller types of cars and trucks. They do not stand up. After a few months of war only the well made and powerful vehicles remain.

Medical service operates much according to the plans of all the European nations. The food of the men is excellent. Company officers are brought a sample of each meal to taste before it is served. With each meal the soldier is allowed a half liter of red wine. This is in great contrast to the food of the Loyalists and according to reports many of the Loyalists pass the lines in order to eat.

TACTICAL NOTES FOR FUTURE CAPTAINS.

[Notes de tactique à l'usage des futurs capitaines.] (II) Colonel Lédérrey

A continuation of the excellent manual written by Colonel Lédérrey for junior officers.

THE SUPPLY OF HORSES IN OUR ARMY.

[La fourniture des chevaux dans notre armée.] Lieut. Colonel Muller

A discussion of the means to increase the production of horses and mules in Switzerland. Switzerland imports 4,000 horses annually. The author believes their mountainous grazing lands are not exploited sufficiently and that it is possible and desirable for Switzerland to become self-supporting in horse flesh.

THE 1937 MANEUVERS IN THE LENINGRAD DISTRICT.

[Les manoeuvres 1937 de la région de Léningrad.]

Members of the press were forbidden to attend these maneuvers, nevertheless the Polish military press has reported them quite completely. Units of the Baltic fleet, stationed at Cronstadt, as well as the troops of the Leningrad region participated in the maneuvers. The civil population was required to conduct itself as it would if subjected to aerial attack in war. The Osoaviachim had charge of civil participation, working in close liaison with the army.

The theme of the maneuvers visualized an enemy invasion in the Leningrad region. The maritime support was based at Cronstadt, and the principal aviation base at Gatchina (30 miles south of Leningrad). It was assumed that the communications of the entire region with Moscow and the interior had been cut. The operations were to protect Leningrad with its large naval and armament industry. The maneuvers were based on the plan of defense of the western frontier which provides against attacks from Finland, Estonia, Lithuania and Poland.

The western Russian frontier is not fortified in the sense of a Maginot line, but it includes numerous supporting points, strongly constructed and capable of being used as bases for offensive action. In addition, airdromes are prepared along the frontier and emplacements for heavy artillery have been constructed. Aviation from interior Russia participated in the maneuvers.

Parachute infantry scored a notable failure. A massive descent was attempted, but most of the parachutists landed far from the point selected and were so scattered that they would have been without value. The Russian press blamed this failure on the weather. However, it is certain that large numbers in the Russian army, including Marshal Voroshilov, attach but little importance to aerial infantry and do not depend much, in their plans, upon its success or failure.

February 1938

THE INFLUENCE ON OUR TACTICS OF THE INTRODUCTION OF MASSES OF MOTORIZED AND ARMORED VEHICLES BY OUR NEIGHBORS.

[De l'influence exercée sur notre tactique par l'introduction en masse, dans les armées voisines, d'engins motorisés et blindés.] Lieut. Colonel Montfort

A discussion from the Swiss viewpoint of the effect of hostile mechanized and motorized forces on Swiss defense tactics. The writer emphasizes the requirements of prompt issuance of fragmentary orders. The procedures to be adopted for marches and bivouacs, and the tactics of defense, attack and retrograde movements, as modified by motorized or mechanized threats, are analyzed.

THE GERMAN ARMY IN 1937.

[L'armée allemande en 1937.] Colonel v. Xylander

(See digest, page 47.)

IMPRESSIONS AND EXPERIENCES OF THE SPANISH WAR.

[Impressions et expériences de la guerre d'Espagne.] (IV) Captain Bauer

Although Spain has served as a testing ground for new weapons developed since the World War, there is one notable exception. Neither Insurgents nor Loyalists have used gas. The Insurgents, under any circumstances, are prepared against an eventual recourse by their enemies to this barbarous method. All their soldiers carry a gas mask. On the other hand, they are ready to make reprisals and unquestionably their adversary is not ignorant of this.

Almost all of the Spanish air force of about 300 airplanes fell into Government hands at the outset of the war. Most of these were obsolete or obsolescent. Both contenders had recourse to foreign nations for help. According to Pierre Hericourt,* to whom credence can be given, the Insurgents, during the first nine months of the civil war, brought down 426 enemy planes. During this same period the Government received the impressive number of 759; 212 of these were French, 350 Russian and the rest English, Dutch, American and Czechoslovakian. The Insurgents received an approximately equal number during this period and in addition captured a number of Russian planes on ships. The following French planes, brought down behind Insurgent lines, were repaired and used: 21 Loire-Nieuport 47, 12 Dewoitine D381 and D510, 35 Breguet XIX and 19 Potez, a total of 87.

As to priority of bombardment of villages, this unquestionably goes to the Government forces. On 20 July 1936, they bombed Tetuan with twenty victims of whom three were infants. Since then reprisals have succeeded reprisals. One can judge by succeeding events how futile such bombings are in a military sense. No government retaining political power will permit itself to capitulate to the panic of a population begging peace at any price. Both sides have had thousands of victims from bombs and still the decision of war is being obtained on the field of battle and nowhere else. One can draw the conclusion that the bombardment of cities violates the law of economy of force.

Aviation has reinforced and prolonged the action of heavy artillery. All the great attacks in the north were prepared in this way. Such usage of aviation requires close collaboration with the ground forces and this cannot be improvised. One can deduce that the autonomy of the army of the air has very definite limits which are not understood in certain countries, notably France, where the portion of aviation allotted to ground cooperation has been unduly reduced.

Altogether, the present war justifies the ancient military principle of cooperation of all arms. When the aviation is incapable of cooperation ground action is delayed or compromised. Rainy, foggy days, even the short days of winter are nearly lost for the offensive, so vital is the aid of aviation.

Aviation losses are heavy. From 6 to 25 July 1937, the Nationalists brought down 106 hostile planes; 85% of these were victims of pursuit and 15% of antiaircraft artillery.

Camouflage has become almost a reflex act with troops in the field. Everywhere one sees the greatest ingenuity in concealment and usually this is done without the intervention of the higher commanders. Troops have learned its necessity from experience. Between Grado and Oviedo there were forty batteries in position and one was only able to see two or three guns. Not many faults are seen such as the one of an excellent sergeant major who had carefully concealed his antiaircraft guns and vehicles and then spread out the laundry of his men to dry beside the battery.

Light German and Italian tanks are too lightly armored and can be pierced in places by rifle balls. Such tanks are useful only for reconnaissance and meeting engagements. The medium Russian tank, armed with a machine gun and a 45-mm cannon has given a much better account of itself. But it is vulnerable to antitank cannon and its rubber tracks can be set on fire. It supplied some success to the Reds at Brunete, Belchite and Teruel, but as soon as the effect of surprise has passed they have succumbed to the antitank fire, the aviation and even hand grenades and bottles of gasoline tossed on them. High speed has proved of little use. The effective tank will have to be a compromise and speed is the quality most easily dispensed with. Even the more heavily armored tanks cannot stand up to antitank weapons. One can conclude that it is impossible to attack successfully an entrenched, properly armed and prepared enemy with tanks. What of the attack in great masses? One recalls the example of a German officer, cited in the report of General Haig at the battle of Cambrai, who before he was killed, knocked out sixteen British tanks with a single field piece. Terrain will rarely permit an attack in mass, both in width and depth. Obviously it is necessary to neutralize, not only the hostile artillery, but the hostile antitank guns, before launching a tank attack.

The Russian antitank gun of 45-mm caliber has given good account of itself. A shielded cannon is a great advantage. It appears that many more antitank guns than are now in use will be necessary in a major conflict. Many examples of successful aviation attack on tanks have been witnessed. Bombing requires an almost direct hit. Pursuit aviation armed with small cannon has made many successful attacks diving at tanks.

TROOP LANDINGS FROM AIRPLANES IN RUSSIA.

[Les débarquements aériens en U.R.S.S.] General Niessel

The widely studied practice of parachute jumping in Russia has led to the creation of a veritable aerial infantry. In the army maneuvers of 1937

*Pierre Hericourt: "Pourquoi mentir? L'aide franco-sovietique a l'Espagne rouge." — Baudinière, Paris, 1937.

at Kiev and 1936 in White Russia and at Moscow, large scale debarkations were executed, partly by parachute and partly by succeeding landings of transport planes. These exercises are interesting and one cannot deny them some value; one should, however, examine them without prejudice to determine to what extent they are actually practicable and to what extent they are artificial and of doubtful value.

Individual training is conducted first very methodically in schools where the future parachutists jump from high towers with the parachute already opened, to overcome the initial fear. They then proceed to actual jumps, from different altitudes, gradually getting lower, but still high enough to guarantee the certain operation of the parachute. Accuracy of landing on a prescribed spot is sought to facilitate the grouping of a number of men landing at one time; with this object the opening of the parachute is delayed to diminish the dispersion. Jumps are practiced with arms and munitions. Following this group descents are practiced and the effort is made to keep as closely together as possible. As soon as they reach the ground they orient themselves, march and fire, both day and night.

The dropping of isolated individuals for propaganda or espionage purposes, especially at night, is simple. In a sparsely populated country it is also relatively easy to drop small groups charged with destructions or other special tasks. However, if the jump takes place at night, the regroupment of the participants may be difficult, and if they are to seize important points it is improbable that these will be undefended. If the object is destruction, it can only be superficial, since the demolition of large works will require hundreds of pounds of explosives and it is difficult to see how a small detachment can transport the explosives on foot after landing from a parachute.

In Russia, they visualize, and realized in the maneuvers cited, the landing of several hundred men to seize important objectives and even to attack reserves or the rear of hostile positions. But one can be somewhat skeptical of the results to be expected in war and not in maneuvers. This is how they are expected to operate.

After dropping a test parachute to indicate the direction of the wind, a first wave of 25 or 30 parachutists is launched. These, to obtain the minimum dispersion, do not open their chutes until as late as possible. Other waves follow and group themselves with the preceding waves, or at least coordinate with their action. Machine guns, small field pieces and ammunition are also dropped. But it is to be questioned if the parachutes carrying weapons and munitions will not be widely dispersed, since they cannot be opened just before they reach the ground as can those of the men dropped.

It is expected that the debarkments will take place in the proximity of enemy landing fields under the protection of pursuit aviation as well as bombardment or attack aviation to attack the ground defenders. It is a hazardous operation, even if the waves of parachutists are launched around the terrain to conquer and attack it at the same time from different sides. Following this, larger forces together with machine guns, cannon and ammunition will be landed in planes; they even talk of flying in automobiles and tanks. They will thus be able to debark successive groups of a thousand men each; half an hour will suffice to unload 4,000 or 5,000 men, a force able to obtain important results. Obviously this requires the employment of a large number of transports.

Actually, about 700 men were dropped by parachute in the Kiev maneuvers in 1935. In the Minsk maneuvers in 1936, about 1,500 men with 150 machine guns and 8 trench mortars were dropped by parachute and attacked a landing field 90 miles behind the front. In the Moscow maneuvers 2,000 parachutists were dropped in successive waves; they seized an airdrome on which a complete regiment of infantry was debarked from transports.

Obviously these operations were not conducted under veritable war conditions. We do not know how the terrain was occupied and defended. In war it would have been defended. The transport planes carrying the parachutists flew at about 2,300 feet. There was thus a good chance that the defensive machine guns would have caused losses to the transports, crews and parachutists at the time of landing and before they could regroup themselves and be assembled in condition to maneuver and fight.

Admitting that the successive waves of parachutists were able to seize a landing field almost instantly, although it seems highly improbable, the defenders, when driven away, would continue to fight using long range machine gun fire against the transports making the later landings.

Russian instruction of parachutists is certainly serious and is susceptible of interesting results. It is, nevertheless, permissible to regard the spectacles described as of slight chance of success. These considerations should not prevent the training of military parachutists with a view to certain operations which may be possible in special cases and which we should be prepared to execute. France has commenced this work and groups of parachutists have already taken part in small operations. It is wise, though, not to let our imaginations wander to excess in the matter. It is not sufficient to have parachutists technically well instructed; it is equally important that their instruction and tactical employment should be wisely conceived and conducted.

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July 1938

ASHMORE MODERNIZED. By the authors of "Air Strategy"

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LIST OF PERIODICALS INDEXED AND KEY TO ABBREVIATIONS

A Ord = Army Ordnance
A Quar = Army Quarterly (Great Britain)
Bul Belge Mil = Bulletin Belge des Sciences Militaires (Belgium)
Can Def Quar = Canadian Defence Quarterly (Canada)
Cav Jour = Cavalry Journal
Cav Jour [GB] = Cavalry Journal (Great Britain)
Chem War = Chemical Warfare Bulletin
CA Jour = Coast Artillery Journal
FA Jour = Field Artillery Journal
Ftg Fore = Fighting Forces (Great Britain)
La France Mil = La France Militaire (France)
Inf Jour = Infantry Journal
Jour RAMC = Journal of the Royal Army Medical Corps (Great Britain)
Jour R Art = Journal of the Royal Artillery (Great Britain)
Jour RUSI = Journal of the Royal United Service Institution (Great Britain)
Jour USII = Journal of the United Service Institution of India (Great Britain — India)
Kraft = Kraftfahrkorpstruppe (Germany)
MC Gaz = Marine Corps Gazette
Mil Mitt = Militärwissenschaftliche Mitteilungen (Austria)
Mil-Woch = Militär-Wochenblatt (Germany)
Mil Eng = Military Engineer
Mil Surg = Military Surgeon
Nav Inst Proc = Naval Institute Proceedings
Pion = Pionere (Germany)
QM Rev = Quartermaster Review
Ras Cul Mil = Rassegna di Cultura Militaire (Italy)
Res Off = Reserve Officer
Rv de Cav = Revue de Cavalerie (France)
Rv d'Inf = Revue d'Infanterie (France)
Rv Mil Gen = Revue Militaire Générale (France)

Rv Mil Suisse = Revue Militaire Suisse (Switzerland)
RAF Quar = Royal Air Force Quarterly (Great Britain)
RASC Quar = Royal Army Service Corps Quarterly (Great Britain)
Roy Eng Jour = Royal Engineers Journal (Great Britain)
RTC Jour = Royal Tank Corps Journal (Great Britain)
US Rev = United Services Review (Great Britain)
Vet Bul = Veterinary Bulletin

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 The influence on our tactics of the introduction of masses of motorized and armored vehicles by our neighbors. (Rv Mil Suisse — Feb 1938)
 Mechanization. [See "Original Military Study"]
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VETERINARY SERVICE

Modified horseshoeing for road marches. (Vet Bul — Jul 1938)

W

WAR PEACE

Strategic and critical materials. Their relation to our national security. (A Ord — Jul-Aug 1938)
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ITALY-ABYSSINIA (1935-1936)

The Italian Medical Service during the Campaign in Ethiopia. (Mil Surg — Apr 1938)
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Boxer Rebellion (1900)

Rennenkampf's raid in the war with China. (Rv de Cav — Mar-Apr 1938)

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The Japanese Punitive Expedition in China. (A Quar — Jul 1938)
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 Why Japan is in China. (US Rev — 5 May 1938)
 Can the Chinese resist indefinitely? (US Rev — 5 May 1938)
 The War in the Far East. (Mil Mitt — Jan 1938)
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EUROPE

PENINSULAR WAR (1808-1814)

Cavalry Battle Honours: The Peninsular War. "Talavera" 27th/28th July, 1809. (Cav Jour [GB] — Jul 1938)

RUSSIA-POLAND (1920)

The battle of Warsaw, August 1920. An example of the counter-offensive. (Jour RUSI — May 1938)

SPANISH CIVIL WAR (1936-1938)

The tank in Spain. Tactics still fail to keep pace with technique. (A Ord — Jul-Aug 1938)
 Tank or anti-tank. (Can Def Quar — Jul 1938)
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 The Spanish War: A review of the best foreign opinion. (Inf Jour — Jul-Aug 1938)
 Aircraft and mechanized land warfare. The battle of Guadalajara, 1937. (Jour RUSI — May 1938)

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Attack and counter-attack in Spain. (US Rev — 9 Jun 1938)
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Importance of the Basque country. (US Rev — 28 Jul 1938)
A year of war in Spain (July 1936-July 1937). (Bul Belge Mil
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The Spanish War: The recapture of Teruel; the Ebro River
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Lessons of the Spanish War, according to two recent articles.
(Rv d'Inf — Mar 1938)
A page from the Spanish War. The battle of Brunete. (Rv
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SOUTH AMERICA

The crossing of the Andes in 1817. [See "Foreign Military
Digests"]

UNITED STATES

CIVIL WAR (1861-1865)

The Battle of the Wilderness. (Ftg Forc — Aug 1938)
The Rebel rams. (Nav Inst Proc — Jul 1938)

WORLD WAR (1914-1918)

C — Socio-Economic History

Was Germany defeated in 1918? (Jour RUSI — May 1938)

G — Arms and Services

ARTILLERY

Defense of the Belgian coast: 1914-1918. (CA Jour — Jul-
Aug 1938)
Our artillery in 1915. (Ras Cul Mil — Feb 1938)

CAVALRY

1915

Did they know how? (Cav Jour — May-Jun 1938)
A cavalry officers' experiences on the Indian Frontier during
the War. (Cav Jour [GB] — Jul 1938)

ENGINEERS

The use of demolitions in the campaign in South Poland dur-
ing October, 1914. (Roy Eng Jour — Jun 1938)

MEDICAL SERVICE

Contributions of the World War to the advancement of medi-
cine. (Mil Surg — Jul 1938)

TANKS

Tanks in the defensive. With the First Army in April and
May 1918. (Rv d'Inf — Jan 1938)
Mechanization. [See "Original Military Study"]

H — Military Conduct of the War in the Field

The other side of the Hill. No. XVI. Aubers Ridge: 9th of
May, 1915. (A Quar — Jul 1938)
Did they know how? (Cav Jour — May-Jun 1938)
The defense of Dixmude 17 October to 10 November 1914.
(Bul Belge Mil — Feb, Mar 1938)
Notes on the higher conduct of war from 1792 to 1797 and
from 1914 to 1918. (Rv Mil Gen — Jan, Feb 1938)
Organizing liaison in the execution of demolitions. (Rv Mil
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J — Campaigns & Battles

EUROPEAN AREA — RUSSIAN THEATER

The use of demolitions in the campaign in South Poland during
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EUROPEAN AREA — WESTERN THEATER

1914

Did they know how? (Cav Jour — May-Jun 1938)
The defense of Dixmude 17 October to 10 November 1914.
(Bul Belge Mil — Feb, Mar 1938)

The other side of the Hill. No. XVI. Aubers Ridge: 9th of
May, 1915. (A Quar — Jul 1938)

1917

Organizing liaison in the execution of demolitions. (Rv Mil
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1918

Tanks in the defensive. With the First Army April and May
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L — Naval History

The submarine war in 1915. (Mil-Woch — 8 Apr 1938)

WEAPONS

A system of anti-tank defence. (Can Def Quar — Jul 1938)
Some reflections on infantry materiel and tactics. (Inf Jour
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Motorization and maneuver. (Mil Mitt — Feb 1938)
Antiaircraft weapons and their employment. (Mil Mitt —
Mar 1938)
Impressions and experiences of the Spanish War. (Rv Mil
Suisse — Jan, Feb 1938)
Tank attack against antitank guns. [See "Foreign Military
Digests"]

WITHDRAWAL

Organizing liaison in the execution of demolitions. (Rv Mil
Gen — Feb 1938)

ERRATA

(To June 1938 "Quarterly" No. 69)

- (1) Page 94 — Title should read: MANGIN Counterattack of June
11, 1918.
- (2) Page 112, Line 9: Muzzle velocity should read 831 meters per
second (272.5 f/s) instead of 381 meters per second.

